

**TONS OF
TIPS**
FOR YOUR
MACHINE
see pages 16,
18-29, 33,
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50-51...

COMPUTER *EXPRESS*

FIRST NEWS • FIRST REVIEWS • BEST BUYS • YOUR WEEKLY GUIDE

AMIGA



**MULTIMEDIA
MARVEL AT THE
NEW A3000 SYSTEM**

APPLE



**COLOUR MACS
GASP AT THE TWO
NEW LOW-COST LCs**

GAMES



LUPO ALBERTO
LOVELY - OR JUST LOOPY?
PLUS - FLIGHT SIM CITY!

NOW ATARI GETS SERIOUS!

EXCLUSIVE!



- STE price is **SLASHED** by £50...
- But the Mega goes **UP** by £100
- And it's **BYE-BYE** to the STFM!

**"We're shifting the ST
right away from games.
We are going serious"**

— BOSS BOB GLEADOW SPELS IT OUT

FIND OUT WHY ON PAGES 6 & 7

PLUS: Your keyboard is on the way
out - read our special report, page 5

AMIGA: 16 MILLION COLOURS!



**HOW THE HAM-E CARD CAN BRING PHOTO-
REALISM TO YOUR SCREEN FOR UNDER £300**



future
PUBLISHING
Your guarantee of value

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DONS DONE BY VIRUS

Oxford University has been buggered by a virus called Spanish Telefonica. The infection is designed as a protest against rising telephone charges in Spain.

Telefonica infects the boot blocks on the hard disks of MS-DOS based machines. It was brought onto the campus on a floppy disk and, in the computer intensive environment of the University, has spread rapidly from machine to machine.

Express spoke to Detective sergeant Gerald Causar of the Thames Valley fraud squad, the man leading the inquiry into the virus which has destroyed thousands of hours of academic work. He told us: "This virus infects the boot blocks of PCs and creates a counter, this adds one every time a machine is switched on. Once the count reaches 400 a message fills the screen and the hard disk is totally over written."

When translated, the message reads "Lower tariffs! More services!"

Spanish Telefonica is an extension of the Holocaust virus for a number of years. It infects COM and EXE files, moving from machine to machine on floppy disks. Before becoming destructively active, it hangs on these files and slows the operation of the PC down slightly.



• Oxford University: traditionally a seat of great learning. Now it is the site of techno terrorism with a distinctly Spanish flavour.

Whether it got into the university system through a malicious act of vandalism or an innocent mistake is unknown. Detective sergeant Causar explained: "This is the third report of this particular virus we have had in the Oxford area. The others occurred in businesses. It could have been someone doing it deliberately, we don't know at present, but we are dealing with the Metropolitan police computer crime unit in the meantime."

Authorities at Oxford university are working day and night to rid their machines of Spanish Telefonica. But at the time of writing, there was no way of tracing exactly how many PCs were suffering from the virus. ■

COULD YOU RE-WRITE THE BIBLE?



• Archbishop Carey - A known computer user. But will he write the latest in religious software competitors? Well,

What could possibly unite an Amiga owner with an ST user? The answer is, a competition which offers cash prizes and entails writing Bible-related software.

Set up by a company called Evangeltrust, the parent company of the Evangelsoft publishing house, which works from the dictum 'Why should the devil have all the best computer software?', the competition is open to people of all ages. Users of the following machines are more than welcome: PC, Amiga, ST, PCW, BBC B, Archimedes, Einstein, and Spectrum.

To win, entrants have to produce a new program, such as a game or database which can be used in the study of the Good Book.

Prizes on offer include £50 cash, and £50 of Evangelsoft software. The competition closes on December 31.

Entry forms and full details are available from Bible Software Corp, Evangelsoft, PO Box 224, Kingston Upon Thames, Surrey KT1 2HX.

GET REAL!

HDTV not a PAL

High Definition Television (HDTV) the proposed world standard for television transmissions is not good enough for Europe, and that's official.

A meeting of top Euro-broadcasters has come up with the idea of scrapping the PAL Phase Alternation by line system which will be familiar to ST and Amiga users as the standard for computer monitors.

The European Commission is desperately trying to forge an agreement between electronics, television and satellite operating companies which will see the death of PAL. Any such agreement would need to be in place before European telecommunications ministers meet on June 3. ■

GET REAL!

COMPUTER MAKES BIG SPLASH

The America's Cup, that bastion of boating, is now under the influence of computing power.

Hewlett Packard is helping the US Stars and Stripes team with its boat design. Prior to the start of computing technology the team had to build 40 yachts in order to test their. With the use of Hewlett Packard's technology, this number has been cut to 15.

HP is also donating PCs, workstations, printers, plotters and other peripherals to officials of the race. ■



• Could a computer help you to meet this gorgeous three headed lady?

Computer guided love

Japanese companies are spending millions of yen on computer-based dating systems. This is no idle expenditure, it is based on the theory that love-litured workers operate more efficiently that lonely single ones.

Mitsubishi is at the forefront of the labouring love initiative with its Diamond Family Club. The company claims that it is achieving 100 marriages a year from within its 50,000 work force in Japan. Mitsubishi staff do not receive this service as a perk however. An initial payment of the equivalent of £2500 has to be made to get a place on the database. Another £2500 is paid if an engagement ensues.

Expensive it might be, but it is a great deal more efficient than the more traditional method of finding a match. This entails riding into town on what ever vehicle was nearest, and sailing out for partners. ■

SALES BITCH

A press release lays on the desk. It reads: 'Software to set frigides to eat kitchens'. Interesting, but surely kitchens need frigides as much as anyone else - you don't want to leave your food out in the garden to get eaten by polar bears do you?

Unfortunately, the press release in question which relates to a program called SalesCraft from Brainwave Computers, avoids the question of food freezing, refrigerators or even igloos for the rest of its six paragraphs. Instead it mentions that the soft-

ware costs £452.37 and is 'accessible to even the smallest business'. It comprises a database, and word processor which produces standard letters. Again according to the press release, 'it is ideal for tele-sales', 'relevant to any company', 'suitable for the mass market', 'designed for use in all business sectors', you get the idea.

Still no mention of the frozen North. Front End wonders when the 'Send to the Arctic' follow-up is due. Until then, more information is available on this number 061-903 0211. ■

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The colour of Amiga dreams
The HAM-E card brings you 16m colours for only £299 – pages 56/57

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MICROS ARE JUST THE LIBRARY TICKET



The age of philanthropy is not dead. Specialist hardware house Geac is celebrating its 20th anniversary by giving away free computer systems to 20 libraries around the world.

All the potentially lucky libraries have to do is submit a five page essay on why automating their systems would lead to improvements in service.

This follows on from AT&T's charitable give-away of \$4.2 million worth of equipment to colleges which we reported last week. Which computer company will be the next one to follow suit? Write into Express Mail with your ideas.

For more information on winning a Geac system you should phone 0101 436 4775 0525. ■

• Some people like to have books. But not computer people, they far prefer to celebrate them.

A MURDER MOST FLOPPY

A US Marine captain. A 5.25 inch, PC compatible disk. A woman, and a life insurance policy.

All factors in a possible murder. The captain is called Robert Russell and he is currently on trial charged with conspiring to kill his now missing wife. The major piece of evidence in the courtroom is the disk which contains a file called simply, 'Murder'.

The files contain phrases such as: 'How do I kill her?', 'Plastic bags over head' and 'Check in library on ways of murder electrocution'.

The disk was found by marine sergeant major William Joseph Kane as he cleaned out the captain's office in February 1988. The reason for the clean out was that Russell had been relieved of duty. This occurred more than a year before Sherry Russell went missing.

While the evidence looks stacked against captain Russell, his defence against the incriminating disk is that the information relates to a book he was writing. The case, as they say, continues. ■

GET REAL!

Feds led up with computers

The FBI is trying to introduce legislation which will force businesses and institutions to hand in 'back doors' to processed and data encryption systems.

The Feds are finding it more and more difficult to keep tabs on data communicated by encrypted channels due to the rapid advances made in encryption technology. In a bid to get more access to data and incident rates, as well as disclosure requirements, the FBI together with the Department of Justice has proposed a bill which may force all future data communications systems to have a back door to allow the plain text contents of notes, data and other communications.

If this becomes law, then businesses and individuals who are generating or protect sensitive information will be faced with a situation where they have to provide the information with easy access into data systems, in effect this means that every hacker with a get to know how a computer operates will know that there is a back door into it by the FBI.

GET REAL!

LE MICROS



A car racing team sponsored by Evosham Micros among other computer-related companies went to Le Mans in France in order to win round three of the 1991 Dacia River GTI championship. And it was. Micro's managing director, Richard Asude

drove one of the team vehicles, while current championship leader, Dave Louison drove the other – and race winning – car. This was Louison's first outright win of the season.

The next outing for the Evosham crew is at Silverstone on May 19th. ■

FrontendFrontendFrontendFrontend

Sophisticated pen-input systems set for home use by early 1992

KEYBOARD KILLERS

The first word processor specifically designed for use with pen-input systems, and aimed at the home user market, has just been demonstrated in the States.

Called Professional Pen Plus, the program will run under Microsoft's Windows extension, PenWindows. It is currently priced at \$249, and enables use of sophisticated handwriting recognition as well as pen 'tabular'. In common with other systems, it will also be semi-modifiable.

Although its effectiveness as a word processor is yet to be really put to the test, the sub-\$300 price tag takes pen-input out of the specialist environment, and places the technology firmly in the hands of both the home user and the non-specialist business user.

Two pen-based operating systems, iO/Sa, from different companies are currently leading the vanguard of the keyboard-less battleground. Microsoft, the American giant responsible for MS-DOS and the Windows graphi-

cal user interface (GUI) is now providing software barriers with development kits for its PenWindows G/S. The system will be launched in November, initially as an extension to Windows 3.1 which will be released at the same time.

Go Computers, again from the United States, has developed the other pen-input system, known as Penpoint. It has already been seen running on the GRD Pad reviewed by Express in our March 9 issue, number 1223. While Microsoft is

the larger, more established organization, Go certainly is with a chance to be directed towards Microsoft from certain large software houses - notably Lotus Corp, publisher of the industry-standard 1-2-3 spreadsheet.

However, and in order to keep its colours open, GRD Computers' next range of keyboardless laptops will be compatible with both PenWindows and Penpoint.

Essentially, the pen-input operating systems which are commercially available at the moment are aimed at specific operations such as data entry in a warehouse environment, where only alphanumeric characters such as serial numbers and abbreviations need to be entered. But the pen systems which will be available towards the end of this year and - more excitingly - in the early half of 1992 will be pitched towards the home and business user.

Microsoft has already demonstrated a system called Pen Notebook by handwriting '2+2=4' on the screen with a stylus. Not only does the PenWindows-based system turn the handwritten



• Pen-input is coming to the mass market, but could advances in voice recognition input systems mean that it is already old hat?

characters into type which can be understood by the PC, it also completes the calculation and prints the result.

Two other systems, one called WindowMind and the other based on Borland's Quattrovision, are also under development.

Next week Express will bring exclusive details of a UK-produced pen-input system. Watch this space... ■

Ten Facts About Keyboardless Input Systems

- 1) Pen-input systems do not work with Optical Character Recognition (OCR) but with Handwriting Recognition.
- 2) Microsoft's PenWindows has already been seen running on a 386SX PC with a graphics tablet as the input device.
- 3) Tablets are currently hard to work on a system which consists of a Pen-based computer with a detachable screen.
- 4) Systems are already shown as personal organisers with a touch-sensitive screen.

- 5) Pico has already developed a pen-input system to extend its iSC-120 series.
- 6) Voice recognition systems are now available for Mac (Voice Navigator II) and the PC (Soundmaster).
- 7) Atari's keyboardless IIx, the SI-Pad is due for a Spring 1992 launch. And according to Atari UK's marketing manager, it is hoped to cost 'under £2,000'.
- 8) Launches by GRD Computers' pen-input computers which will run both PenWindows and Penpoint are due in the last quarter of 1991.
- 9) GRD has designed computers for all rigs which are termed as 'universally safe' - which means that they don't cause explosions! Because key presses can cause tiny sparks, a pen-input system had to be developed.
- 10) Gesture is the term used to describe non-alphanumeric characters such as ticks, underlines and so on.

'Beefier' MAC LCs launched Stateside

Apple has launched two new configurations of the Mac LC in the States, in response to requests from corporate customers who want a more powerful colour Macintosh without having to pay for a member of the Mac II series.

The new configurations don't include keyboards because, according to spokesman John Cook, corporate users like to add their own.

The new bundles are a 2Mb, 40Mb hard disk LC for \$2,499 and a 4Mb, 80Mb hard disk machine which sells for \$2,999.

What sets them apart from the current LCs on the market is the fact that they include 512K of extra video RAM, which allows them to display 16-bit colour on the 12-inch monitor, or 256 colours on the 13-inch Apple monitor - which is the standard requirement in many companies.

Whether the new bundles will be sold in the UK is debatable - there are currently a number of Macintosh configurations, such as the twin floppy Mac LC, which are available in the States but are not available as options to purchasers over here. ■

Tandy launches multimedia PCs

High-speed electronics and computer retailer Tandy is set to launch a range of multimedia personal computers with sophisticated sound, graphics and CD-ROM support. The machines will be launched under the collective name of Multimedia Personal Computers (MPC).

Machines in the range, which include 286, 386 and 386SX-based PCs, will all come complete with a Tandy CER-1000 internal

CD-ROM drive. Each will also include a media expansion adapter with audio circuitry, 256-colour VGA graphics, 2Mb of RAM, and a 40Mb hard disk. Microsoft Windows and Windows Multimedia Extensions are to be supplied as standard.

Prices start at £1,500 for a 16MHz 286 M2500X/2, while the top of the range M4033X, a 33MHz 386, is expected to cost around £3,000. ■

LANs
ahoy!
For the ST

A Local Area Network compatible with the Mac and PC has just been announced for the Atari ST.

The system, called The Universal Network, works as a background application in much the same way as Novell's Netware does on the PC. The Universal Network does not limit the number of STs which can be linked in a network, although a minimum of 10Mb of RAM per machine is required to make the most of the LAN.

As yet the price is only being quoted in terms of 'nodes' - the term used to describe a single machine on the network. The price is \$69.95. None of the UK launch is involved, and Express will bring you the dates and the prices as soon as the information appears.

You can contact 95 manufacturers A&D Software on 019 1 503 476 0071. ■



Low cost number-cruncher is Acer

Acer reckons that its 25MHz 386-based 1232E computer, costing £2149, is ideal as an entry-level financial and LAN host.

The built-in 128-byte cache memory improves data transfer rates to process large complex Computer Aided Design (CAD) and Desktop Publishing (DTP) programs quickly and efficiently. It

has 4Mb of on-board RAM while hard disk options range from 40Mb to 240Mb. Expansion is possible through one 8-bit and six 16-bit slots.

The 1232E is bundled with MS-DOS 4.01, Windows 3.0, IBM 4.11 and a PS/2-style mouse as standard. Contact Acer UK on 0353 23624. ■

DOS 5 due in June

DOS-5 is June 11. The latest version of the Microsoft Disk Operating System (MS-DOS) 5. is released to include the following improvements:

- Better memory management.
- Improved compatibility with Windows.
- Undelete file facility.

However, the impending launch is being met with mixed feelings by beta testers, as DOS 4 caused much bad feeling among users and developers.

Express will be carrying out its own independent review in a forthcoming issue. ■

SWOT's going on?

ST SWOT ANALYSIS

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> POWER OF ATARI BRAND PRICE POINT ADVANTAGE VS COMPETITION PROFESSOR MUIR IN APPLICATION DEVELOPMENT TRIAN GAMING PROGRAMS WIDE RANGE OF SOFTWARE AMIGA ALSO IN AT STOCKHOLDERS OPERATING SYSTEM IN ROM ONLINE NETWORKING USED TO ADVANTAGE WIDE PORTFOLIO OF ROMS COMMODORE AMIGA WIDE SOFTWARE LIBRARY FOR COMMERCIAL APPLICATIONS 	<ul style="list-style-type: none"> CONFUSION OVER STE VS ATARI PERFORMANCE OF AMIGA AS A MACHINE DEVELOPMENT OF APPLICATIONS IN ATARI AMIGA IN ROMS AMIGA IN ROMS AMIGA IN ROMS AMIGA IN ROMS AMIGA IN ROMS AMIGA IN ROMS AMIGA IN ROMS

• Not the best it ever was: Atari's own analysis of its Strengths, Weaknesses, Opportunities and Threats (SWOT) and the ST's current market position. Depressing reading — unless you work for Commodore

Mega STE designed for Mac networking

Available by the end of July, Atari's 50MHz Mega STE, with 16-resolution monitor and either 1 or 2Mb of RAM as standard will sell for £816 and £1179 respectively, with the 2Mb version including a

45Mb, 25 millisecond Seagate hard drive. This can be removed and replaced with any SCSI compatible hard drive. Both machines will fit expandable to 4Mb of RAM and run TOS 2.82. Screen modes and sound facilities will be exactly the same as current STs but the addition of an Apple Talk local area network (LAN) port would seem to ensure additional sales as a Mac emulating machine. There are currently no plans to adopt the redesigned TT GEM desktop.



• The Mega STE: a big Mac to go — or the wrong lot altogether?

So is this the "year of the Lynx," then?

Atari hopes to capitalise on the success of the colour handheld Lynx games console this year with the release of a further 20 titles for the machine.

The company claims the Lynx already has the largest library of

games titles of any handheld console in the UK, and forecasts games sales of 500,000 this year alone. Titles waiting the September release include Hard Driver, Star Runner, Worldclass Soccer and Lando.



• Atari has to far spent over £2 million on a nationwide TV ad campaign — and more is to come this year, as the company continues its games market push. One more reason for the ST to move in the other direction

ALL CHANGE

Last week Atari UK called a press briefing to announce its plans so it finally confirmed what everyone has been saying all year.

This week, Atari UK announced a repositioning of its ST range of home computers, a new £299 bundle for its STE, price rises for the Mega STE, and a variety of future plans for its Lynx and Panther games machines, as well as its Portfolio and PC ranges of business machines.

Propelled by a £1.5 million advertising campaign, which is planned to run over the next six months, Atari's ST range is to be repositioned as a platform offering 'more than just great games'. Emphasis is to be placed on the

MARKET CHANGES

It's clear though that the company is in the process of responding to far-reaching changes in the market; noting the demise of the Bbit computers and growth of consoles as the two most prominent factors forcing it to reassess the attractiveness of its ST range.

But it's also citing a number of additional factors in influencing its decision; the current economic climate is adversely affecting the number of units sold, the increasingly lower pricing available on PCs, the number

projected copy losses in advertising will be "like isn't just a game (neither is our computer)".

NEW STE BUNDLES

Alongside a new promotional campaign targeted at national and satellite TV, the daily press, Bbit and PC magazines, Atari is to relaunch its two entry-level products — the Discovery and Family Curriculum packs.

From the beginning of June, the 160,000 unit selling Discovery will become Discovery Plus and offer a STE 520 with four games, three beginners' titles and several optional productivity modules for £299.

The bundled games will be Indiana Jones, Dragons' Breath, Anarchy and Super Cycle, with the Mochrone art package, First Basic and an ST tutorial disk making up the remaining titles. The planned modules, all available for £20, will include Atari badge word processor, spreadsheet, database and creativity packs.

The Family Curriculum pack, based around the 1Mb STE 1040, will cost £399 and include five software modules designed to cater for all ages from 5 to 90. Play It Learn, Junior School and GCSE Revision comprise the schooling modules, with art and design, music, programming, word processing, spreadsheet and database programs completing the bundle. ■

"The Amiga is a better machine for games, but the ST has more to offer"

— Peter Staddon, Atari Marketing Manager



machines' strengths which the company perceives to be their built in MIDI and high resolution mode. Atari finally bowed to the inevitable superiority of the Commodore Amiga as a games machine and succumbed to the overhauling market penetration of dedicated 16-bit games consoles.

Atari's UK marketing manager, Peter Staddon, admitted to Express, "The Amiga is a better machine for games, but the ST has more to offer... we're moving away from the 'inform him business machine', with a more serious strategic, reassuring but not alienating the kids".

But Atari's UK managing director, Bob Gleadow, remained adamant about the ST's place in the market: "We're not being competition sensitive here, it's not a reaction to Commodore".

"We're not being competition sensitive," insists Atari boss Bob Gleadow: "It's not a reaction to Commodore"



New Portfolios in the pipeline

The new Portfolio is likely to feature 512K of RAM and a faster processor than the existing DP budget machine. Launch timing depends very much on the availability of 80x25 character screens which have the display of such small bandwidths and some videoblocks.

If prices for these screens remain high due to predicted availability shortages, then Atari plan to stay with the current Portfolio design. Otherwise the company expect to produce a PC compatible notebook computer relying on 1 and 2Mb memory cards for application and data storage.



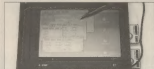
• A pocket full of computing power: the Portfolio, likely to be receiving an upgrade soon, with a faster processor and better screen

AT ATARI

for the rest of the year and beyond. In doing
- The ST has lost the 16-bit games war.

Atari remains quiet on newest products

Released at the Hannover Fair, the pen input ST Pad is to be renamed the ST Style. Commenting on the absence of floppy drives for both machines, Bob Gladwin told *Express*: "We're going for the 3 and 2MB memory card standard for the use of portable data, and we plan to release a book on hard disk to coincide with the official launch." The exact timing of the release of both machines is still officially undecided. However speculation from Atari UK Managing Director Bob Gladwin sees March 1992 at Hannover as the most likely date.



* Not yet even close to release, and already the ST Pad is being renamed. Now it's the ST Style. Whatever it's called, it demonstrates that Atari's R&D department is back in business...



* As intended does the ST Book, another gorgeous slice of pocket-sized portability. Start seeing now for March 1992 (don't dare hold your breath).

The next five years

Atari is perhaps unique in offering such a wide choice of computing products ranging from the Lynx video console to the Atari transputer machine. In between are the Portfolio, STX, STXL, TTX, PCX, and the forthcoming Panther console.

When asked which area of the company's product range would bring in most revenue for Atari over the next five years, Gladwin wasn't hesitant in naming the ST. Lynx and Panther machines. "Each of these will have gained a substantial platform volume in terms of games sales. We are looking into

developing our own games platform to further encourage their success, whereby they remain at our machines would very likely be sold on to other competing formats," he said.

Perhaps then, Atari, at least from the personal perspective of its UK managing director, still sees games software as providing the company's bread and butter. For the moment though, despite the massive success of the Amiga over the last year, the company remains bullish.

Or, in the words of Gladwin, "We're back and we're staying".

Panther set to pounce

Although details of the Motorola 68000-based Panther console are still thin on the ground after *Express* broke the story last September, Bob Gladwin confirmed that the hardware is now finished. What exactly this consists of is still open to speculation, and he remained tight-lipped.

Express has therefore to reason to modify what we believe to be its original specification - namely, a cartridge based, 4096 colour, stereographic console, priced at around £199. Gladwin predicted a launch sometime between October

this year and January next, but stressed that this date would depend on "a critical mass of 15-20 games titles being ready for launch with the machine".

Commenting further on the console, Gladwin continued: "Wherever the Genesis [Megadrive] is, we'll be. The Panther is technically superior, but of course this market is software driven so it's depend on the titles available.

"It's now with UK developers but we have to keep the lid on it now. It would be a big mistake to age it before we ship it."

Add on Transputer

As add-on transputer card for the Mega STE will be finished by the end of the year, Bob Gladwin



* Soon you'll be able to turn your STE into a transputer of phenomenal processing power

confirmed to *Express* that the card, a derivative of work undertaken on the Atari Transputer Workstation (ATW) project, will be called the STT, and "it will sell for more than £200 and retail, less than £100".

Lucky to be shipped with 4 times T480 transputer chips, though capable of supporting 16, the STT will interface to an Atari Megafile housing and connect directly to the 68000 bus to use the STX as a single input/output device.

The R&D work is being undertaken in Cambridge and is a solely UK initiative.

EXPRESS COMMENT

So, what are we to make of all this? The casual observer may incline to the opinion: "Ah. Exactly what Atari should be doing. Apparently it's screwed up in a big way, and here it is admitting as much, repackaging the Good Ship Atari and sailing boldly on with a brand new five year plan. Hurrah!"

It isn't that simple, however. True, Atari is now acknowledging that, in the words of Julian Clary, "it used to be the leader of the pack, and now it's not. You get the picture? It was the leader of the pack, now - (that's enough camp old '80s retreats - Ed).

Trouble is, we've heard this all before, and more than once. Remember the STE's original launch back in the autumn of 1985? How it was going to give that mighty old Amiga a pretty good hiding? Didn't turn out quite like that, did it? Still, perhaps we should let bygones be bygones. Clearly Atari has at least decided that Something Must Be Done. In effect it's giving up the fight on games - though off the record it continues to insist that it has an important future in this market, if only because it offers software houses the opportunity of a cheap second format to help recoup investment in Amiga

development. (Why software houses insist on turning their back on such a prime money-making opportunity is beyond us.)

Instead, the Good Ship Atari is sailing for virtually uncharted waters. The company has spent years squandering its single biggest strength, the ST's virtually unchallenged supremacy in the vast and incredibly expensive MEX music market.

Despite much ado as TPTW (greetings pop-pickers) plunking out their wretched "tunes" on the ST, Atari shut back and did absolutely nothing with its biggest selling point. And when it eventually decided to "get with it" dadde and sponsored a "major musician" to promote that side of things, it chose a John Fordham, whatever that was.

Despite our natural flesh-based optimism and youthful naivety, we're not convinced. At best this is little more than a promise.

Some commentators and rumormongers claim to have discovered a new mood of determined realism emanating from Slough. Maybe so. But there's a long way to go yet. One thing is clear, however: this is the company's last shot. They mess this one up, it's goodnight Atari.

NIBBLES

Whizzier chips

After AMD's successful legal battle with Intel over the rights to manufacture 386 chips, Atari has decided to launch a range of 386 PCs using AMD processors in the second half of this year. An Atari notebook PC could well be one of the products due for release.

Phone your PC

A Japanese designed remote control device enables you switch on your PC over the phone without adding a penny to your phone bill. The Yucapac F58-900 is a small black box that connects to a modem. It sells in Japan for the equivalent of £130. Yucapac is currently looking for a European distributor.

Database shrinker

Brakel's Worksheet Optimiser, which removes unnecessary information from worksheets and reworks formulas to make them faster, is now available for both Lotus Symphony and 1-2-3. Brakel claims that it can reduce the size of a typical worksheet by 12 per cent. It costs \$39.95 in the US.

Mini modems

Two portable modems designed for use with laptop computers have been launched by Micromon. Weighing seven ounces and about the size of a video cassette, both connect to PC and Macintosh computers. The 542 model at \$440 is for use with dial-up phones while the 1042 at \$649 can be used with cellular phones.

NEC's DRAM

NEC is to produce 16-megabit dynamic random access memory chips (DRAMs). A new US-based plant will go live in 1993, and is expected to cost up to \$250million to build. The company is producing monthly production of 3.5 million chips. The facility is designed to reduce trade friction between the US and Japan.

Networking in Windows

The latest upgrade of Crossover for Windows, version 1.2, now has network support. This allows users to communicate through shared modems on a network meaning that only one high-speed modem per network is now needed.

NIBBLES

286 upgrades

Two new 286MHz 'tup-in' 386SX-based replacement boards launched in the US will make multitasking and OS/2 applications possible on 286 machines. The board from Intel has 16K of on-board cache while the AOC board will also run at 18MHz. Both cost around \$300.

Oracle card

Oracle will launch a card next month which will allow Windows users to manipulate data from Oracle databases. It will also allow for the addition of graphics. It is expected to cost around £300.

Amstrad laps top place

Market research figures for March show Amstrad leading in the laptop. The company's market share rose by 4.3 per cent, 5 per cent ahead of its nearest rival Compaq.

CAD in Windows

AutoCAD 1.1 is set to be released in a Windows compatible version early next year. The Windows Extension Kit to AutoCAD's powerful design program will be able to run under Windows 3.0, in DOS or in both simultaneously. Price has yet to be announced.

Support CD

ICL is releasing a set of three CD-ROM discs built up from years of collected knowledge from ICL support staff world wide. PC-Paris will be accessible through Windows. It will be available in three versions: one for IBM - ICL's own mainframe system, one for Unix and another for PC systems. Available now, prices range from £2,000 for a year's subscription for a single disk, to £5,000 for all three disks. The ICL Open Line is on 0344 711711.

Tape prices rise

If Tokyo tape manufacturers win a dispute with the EC, the result could be cheaper tapes for Spectra, CPC and SDA owners. The EC is set to bring in laws to stop the Japanese from flooding Europe with cheap audio cassettes - the result of a downturn in consumer demand in the East and the US. However, the Japanese are threatening to stop investing in the EC if the laws are imposed.

Correction

The price for Netwicks Publisher in the May 4 edition should have been £35.95.

Graphics net set to take Amiga into corporate market

AMIGA: IN AT THE HIGH END

Commodore is aiming to take the Amiga into new areas of corporate business with the help of a Norwegian multi-media package.

InfoChannel, from Digital Vision, is a graphical network system which runs on Amiga 2000s and 3000s. It allows complex series of textual and graphical screens to be designed on a central Amiga 3000 and then transmitted to slave Amigas to be shown on in-house television systems.

It is already being used by a number of companies in Europe, including a cable television station and Scandinavian Airlines. Other applications include point of sales display material for chains of shops, where a marketing department would design display material and then send the information to satellite Amigas at local shops.

The system was designed specifically for the Amiga because of the machine's graphical capabilities and its direct compatibility with both European PAL and American NTSC television standards.

Both Commodore and Digital Vision believe that the system will raise the Amiga's profile as a business computer.

"We see it as a high-end corporate market system," Dennis Phillips of Digital Vision UK told Express. "We're not going to encroach on the IBM PC market, but we're showing the company a system where the Amiga is the best computer for the job. It's going to take Commodore into corporations they never thought they'd get into."

According to Phillips, many leading UK companies are already showing interest, including Thorn EMI and British

Airways. A major contract is expected to be signed within the next two weeks.

Phillips also believes that the system will appeal to large companies because it is easy to install and exceptionally user-friendly. He reckons that it only takes half a day to have the system installed and another half a day to learn how to create stunning animations.

"It's one of the easiest programs to use on the Amiga. It uses so computer terms whatsoever. I gave it to my nanny, who knows nothing about Amigas, and after a couple of hours she came back with all the stuff she had done," says Phillips.

The cost of the system varies with the kind of setup required, but on average the central software and materials needed to link one central Amiga to one satellite machine costs £1,200.



• Digital Vision's InfoChannel multi-media network system: the next user-friendly productivity program ever written?

The Infonet software required to set up a network costs £1,200 and then each satellite unit will cost a further £900 to install, in

Soaraway space sculpture

High space sculptures orbiting the earth are just part of the plans being made by the International Society for the Arts, Sciences and Technology (ISAST), for International Space year in 1992.

Among other projects planned are massive earthworks large enough to be seen from space

sculptures and designs for zero gravity habitats.

The organisation also covers such subjects as robotic choreography, holography as an art and musical interfacing with the human nervous system. Express will be carrying a full feature in issue 139. ■

Two more 1-2-3s

Lotus is releasing two upgrades to its popular 1-2-3 spreadsheet.

1-2-3 Release 2.3, at £395 offers advanced graphical capabilities. Nine features include being able to use more than 100 type styles on a single spreadsheet, drop shadows, a built-in mini wordprocessor, a palette of 224 colours and automatic text wrap around.

The more refined package is Lotus 1-2-3 Release 3.1 Plus, an upgrade to version 3.1. Priced at £475, it offers many enhanced features including 30 multiple worksheet capabilities, access to external data via Databases and virtual memory to allow for spreadsheets using up to 64 megabytes.

It also includes a facility called Solver which can help to

analyse complex problems which might arise in a particular spreadsheet.

Upgrades for existing users are £59 for both releases. Lotus can be contacted on 0784 454445. ■



• Lotus is extending a user base of 14 million to Lotus 3.1 Plus with two new upgrades of the 1-2-3 Spreadsheet.

Cheap designs with classy style



• What you can do with text in Amiga 2 runs rings around other word-2300 DTP packages.

As standard, but user will be able to increase this to over 200 with a series of 'font pack' to be released weekly this summer. Ranging in price from as low as £5 each, every pack will contain two new fonts.

Amiga 2 is available now for £340. Compact L75 on 0386 792817. ■

Amiga has been upgraded to offer PC evening desktop publishing users advanced features. Colour printing, text reversed and an extra 50 fonts are available for under £350.

Enhanced facilities mean that text does below 12 point do not lose clarity. Poster screen updating and cutting and pasting spreads up page design. Text can be made to run around objects or rotated to angle angle.

You cannot actually work in colour in Amiga, but colour can be added to a design so that it prints out in colour, or can be exported to other colour programs.

The upgrade will include 90 new fonts as standard, but user will be able to increase this to over 200 with a series of 'font pack' to be released weekly this summer. Ranging in price from as low as £5 each, every pack will contain two new fonts.

Laser printer ST style

ST owners can not use the Hewlett Packard LaserJet or compatible printers - or at least, not until this week.

Software Development Systems (SDS) in the United States claims to have solved the compatibility problem with its Desktop Utilities Pack (dus). This

runs alongside existing ST word-processing software. It uses 96K of memory, and is able to take advantage of the ST's own control panel. It also supports Digas Elite, MacPaint, and GEM/MSI formats.

The price has not yet been announced. For more information you can call SDS on 010 1 213 565 9799. ■

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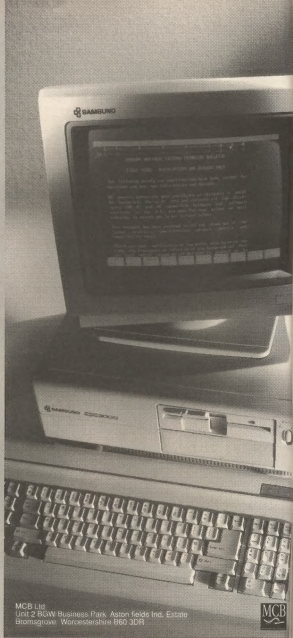
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Smashing server

PRODUCT: File server/PC graphics workstation
NAME: Domex PC 486V/286E



• Fast, flash and more than a networking file server. What might this system offer you?

Claimed by Domex to be a powerfully fast UNIX running workstation and/or file server, the 486V/286E comes with either 1.4- or 8MB of cache memory via a 32-bit SCSI controller. This is said to offer a sustained data transfer rate of 25-MBps per second. The heart of the machine is a 32-bit 486SX data bus. The standard entry level configuration comprises 40MB of RAM, fast access 100MB hard disk, monochrome monitor, mouse, MS-DOS 4.1, Windows 3, a 1.44MB 3.5 inch floppy drive, and parallel Centronics and two serial RS232C expansion ports. It can also be configured as a Novell Netware 3.11 server using a 32-bit Ethernet card, 32-bit SCSI controller, and 300MB SCSI disk - this version will set you back a hefty £10,750.

Peripherals for this system include tape streamers, up to 1Gb (gigabyte) = 1,000MB hard disks, the XV17 non-interlaced, 1280 x 1024 colour monitor (£875.37).

Price: Entry level £4,075.97
Availability: Now

Target users: Anyone who needs powerful network or UNIX systems. Also ideal as a high-end CAD/graphics system.

Contact: CRI, 455 6442
Perceived competition: Dell computers and Compaq with their 'high cost' workstations

Video ASCII

PRODUCT: Video display terminal (VDT)
NAME: Tating ET series

There are three terminals in the Tating ET series: the ET10, the ET10-20 and the ET10-40 all of which are 14", monochrome - either black and white, or black and amber. AMS, ASCII and PC Term VDT protocols are also available.

The screen resolutions are as follows:
ET10 25 X 80 (pixel)
ET10-20 26 X 80
ET10-40 44 X 132

The screen refresh rate for all ET VDTs is 70Hz which compares well to the average 60Hz found on the standard 14" VGA monitor. Four keypads configurations are available: IBM PC/XT, IBM enhanced AT, DEC VT220 and Data General DG 0211.

Price: ET10 = £433.57

WHAT'S NEW

The definitive low-down on all the latest product launches as they're announced.



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Fax at your fingertips

PRODUCT: Data communication catalogue
NAME: Comcat

This is the tenth edition of Trend Communications catalogue for users of data communications equipment. The first point to note is that it's free. The rest is that there are over 700 products listed within the pages. These include cables and connectors, switching devices, modems, multiplexers, fibre optics, leased distance communications, interface converters, local area networks (LANs), wiring products, PC and terminal related products, and multiplexers. Each product is described and illustrated with 16 colour pages of new products.

Price: Free
Availability: Now
Target users: Anyone who uses computer data transmission
Contact: Trend Computers or 06285 30611
Perceived competition: None

ET10-20 = £457
ET10-40 = £504
Availability: Now
Target users: Business and system designers
Contact: Tating on 0952 290111
Perceived competition: The spokesman for Tating was not prepared to say.

Publish domain

PRODUCT: Desktop publishing for UNIX systems
NAME: Axialis Publisher

This piece of product news came our way purely by a chance conversation. Axialis Publisher is aimed directly at the Domex PC 486V/286E (see Smashing server). According to the publishers, Axialis is a low cost solution which brings professional results. Explicit will be giving the software a full review in a forthcoming issue in order to test these claims.

Price: £1051.60
Availability: Now
Target users: Anyone wanting a word processor to create professional layout work.
Contact: Micro Music on 071-352 7776
Perceived competition: Framemaker (£2,500)

The more impressively specified MT906PS printer comes with 2.5MB of RAM as standard, PostScript page description language compatibility, and 35 Type 1 bitstream fonts. It is capable of producing 6 pages per minute and makes use of Manacron Tally's ARI, controller. This uses a MS3000E 15MHz processor, as well as a custom Application Specific Integrated Circuit (ASIC) which does the jobs of over 290 separate integrated circuits which were previously on the main board of MT printers. It also comes with parallel (Centronics), and serial (RS232) ports for interfacing with a wide range of IBM compatible computers.

Price: MT904 = £21,596.65
Currently on special offer of £21,320
MT906PS = £22,311.32

Availability: Now
Target users: ODP and graphics applications
Contact: Manacron Tally: 0494 450770

Perceived competition: Laserjet II and Sprint laser printers.

Sparc plug

PRODUCT: SPARC Workstation
NAME: The Muse is 2000

SPARC (which stands for Scalable Process Architecture) is a system developed by Sun computers for use in its highest workstations. The Muse x200 from Microman which makes use of SPARC is based on the platform of an Open station, it a 300 cent Sun compatible machine which comes in three configurations:

12.5 million instructions per second (Mips)
18 Mips
Laptop version of 12.5 Mips.

All the machines are aimed at companies, or wealthy single users who wish to extend existing SPARC-based systems or move into the world of SPARC without the massive financial layout previously associated with this type of architecture.

Price: 12.5 Mips desktop = £0104.12
18 Mips desktop = £4694.12
12.5 Mips laptop = £7866.62

Availability: Now
Target users: Anyone who wishes to make use of highly specified, 100 per cent Sun compatible workstations.
Contact: Microman: 071-352 7774
Perceived competition: Sun workstations.

Please note that all prices quoted in this page are inclusive of VAT.

Low cost laser

PRODUCT: Laser printer
NAME: Manacron Tally MT904



• The Manacron Tally MT904: a budget version of 80's laser printer range is now available. How much? Read on...

This laser printer is a recent addition to the market, it's two months old, and goes Manacron Tally's range of MT906PS printers.

As an introductory offer, the manufacturers are selling the printer for £521.32. It is a 4 pages per minute printer which comes with optional PostScript compatibility gained via the addition of add-on emulation cards. It comes with resident counter fonts and a range of Hewlett Packard compatible fonts. Its base emulation is the HP LaserJet II printer. Optional memory is available at £197.92.

MonSTer News

Just a couple of weeks now since the release of the MONSTER STEREO CARTRIDGE, and it is already establishing itself as the industry standard on the ST. There is already a wealth of public domain and commercial software supporting it, and the number of new commercial titles supporting the cartridge is growing by the day. For full details of the special offers we have on MSC compatible software, check out the advertisements in this magazine.

TCB TRACKER

There have been a number of people enquiring about the update to TCB TRACKER

To put everyones mind at rest, I can publicly

announce that the latest version is 1.1m. This is just an updated version of 1.1 that supports the MONSTER STEREO CARTRIDGE. The latest version will be in the words of Anders Nilsson "BE READY SOON". We will be sending out a letter to everyone who has returned their registration card when we actually receive the new version.

PD UPDATE

Have you got a copy of the latest MPH ST PD list yet? If not then you don't know what you are missing. Our list is double sided and not only contains details of all our PD software, but also several useful utilities like our virus free boot. To receive your copy, simply send one pound to MPH and we will send you a list + discount voucher.

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** If you require 24 hour courier to your door, please add £5 else your computer will be sent back by contract parcel post.*

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EXPRESS MAIL

Write and tell Haydn Fitz-Williams what you think! Reach him at: **Express Mail, 30 Monmouth Street, Bath BA1 2BW**. Sorry, no personal replies, even with an SAE and remember, only **SOME** letters win a fiver!

Ahoy there!

I feel that as a software liberator, that it's about time I spoke up for our profession.

Firstly, I wonder how much exactly you have made from all the software liberators you ship to FAST?

Secondly, I don't think you do as you say. I am sure you and your colleagues must have touched and probably use liberated software, as you imply to your readers that you have nothing to do or have had nothing to do with such software. Remember if I-W that it is people just like you that we supply.

Thirdly, What if exactly wrong with hardlessly copying software? All it does is reduce over bloated profit margins by a couple of percent and it keeps us from begging on the street for money to buy games with - what's better if I-W? I leave it to you to decide.

"A poor software liberator"

OKAY let's spell it out shall we? First off, we don't make money out of shipping people to the Federation Against Software Theft. Second, we don't need pirated software because, as reviewers we get every single release for nothing anyway. Third, it'd be better for you to beg on the street, it would show you how hard it is to get money out of people. "Software Liberator" indeed - got outta here!

You too

I noticed that Anonymous pirated nearly £1500 of games. You seem to think this is the equivalent to her stealing such games. But copying is not theft. If you steal something you yourself have that thing while someone else is deprived of it. The original is still intact after being copied.

It could be argued that by copying games Anonymous has deprived the software industry of the chance to sell him those games, and so depriving them of

money they wouldn't have got in that way, but if he wasn't going to buy them anyway then no harm will have been done.

Since it is extremely unlikely that a sane person would lay out £1500 on games he has really done no damage to the software industry whatsoever, four arguments is therefore nonsense.

Deshringer 20

ABSOLUTE CRAP. Of course, pirates want the games they copy! And if they didn't have the opportunity to illegally copy them they'd have to buy 'em. Pirates copy games because they don't want to part with money. £15000 of pirated games is theft pure and simple because the pirate is depriving all the parties involved in bringing the game to market of the money they deserve. That's all there is to it.

Cheap games

I would like to add two points to the piracy debate. Firstly, I read that many pirates copy 16 bit games because the price tag is too high and they would not do it if games were the same price as 8 bit games.

A quick scan through Anita Format reveals that games for sale under a tenner include Kick Off, Shadow of the Beast, Demolish, X-out (for £0.99) and so on. I rarely fork out more but even then Lemmings only cost me £17 on the release day. Alright, you may have to wait a few months for bargains, but I managed to hold my

excitement and purchased Xonon 2 for £7 a few months after release. These bargains are either rare or illusive.

N.A Crooks, Middlesbrough, Cleveland

Precisely.

Risky BIZ

There appears to be a bit of confusion over what constitutes a RISC chip. When Reduced Instruction Set Computers were first developed by IBM, it was primarily to increase processing speed. This was achieved by reducing the time spent decoding the instruction, and the theory was that the fewer the instructions, the quicker the decoding.

Technology intervened however and as instruction coding rapidly speeded up, the reduced instruction sets which gave RISC chips their name were no longer necessary. The general definition of RISC now is a processor where instruction decoding takes approximately one clock cycle.

On-line mail

Dearmadam,
I am writing to you via the Internet. I am a computer enthusiast and I am interested in the world of computers. I am writing to you via the Internet. I am a computer enthusiast and I am interested in the world of computers. I am writing to you via the Internet. I am a computer enthusiast and I am interested in the world of computers.

984.1013

MORE ASTONISHING LOOT ATTRACTION UTILITIES - PARTS 3 & 4

3 Write a basic program full of GOTO loops that calls up pages full of adverts. If you live in a terraced house, you can put your monitor up at the window and catch the



• Do you own a CPC? - Well here it now and make a fortune

attention of passers by. If you live at a bus stop, you'll be able to increase the rates you charge advertisers.

If you aren't lucky enough to live in a terraced house and have a long front garden but are still blessed with a bus stop, you'll be able to rent outdoor pier telescopes in the winter and place these just inside the garden wall.

The smaller amount of ad revenue you make will be supplemented by the pensions that people put in the telescopes.

If you're a real entrepreneur, you'll make the program run slightly longer than the telescope thus guaranteeing a second coin.

And who said making money with a computer was difficult

Quentin Park, Birmingham

4 Here's several 'test attention utilities' for making stacks of cash with your computer

1) If you have a CPC. Put it in an hermetically sealed box now. In one hundred years time the Science museum will pay thousands for a mint condition relic such as this.

2) If you have an MSX machine, phone Sony as they are bound to want it. Get it of those bad mistakes out of circulation as soon as possible.

3) If you have a Mac, move to London and tell some posy-titled MD it's a design house that you are "GTP" (Griping on a life-knowledge interface scenario).

4) If you own a PCW, hire your services out to a cloud, they always need down.

J Sands, Southampton

From this it is possible to have the seemingly absurd situation which Stuart Whyte referred to in issue 131, where a RISC chip has the entire instruction set of a CISC chip as a subset of its own, or emulates such a set at the microcode level. The situation with Motorola's new chips though may be simpler than at first appears. The 68045 has been referred to as 'almost a RISC chip', due to the fact that its instruction decoding takes less than 1.4 clock cycles on average. The new chips may simply extend this 'RISCness'. P.S. I am a poor computer science student - how do I go about submitting articles for possible inclusion in your esteemed organ? Geoffrey Taylor, Dunfermline, Scotland

THANKS GEOFF for that info. If you, or anyone else for that matter, want to submit articles for possible inclusion in Express you're best off sending the editor a summary of the piece. This should outline the main points of the article, the proposed length and how it can be illustrated. Don't send an SAE, phone Andy a few days later and talk to him directly. He's quite a friendly chap, really.

Are lights up

As an ST owner, I was totally disgusted with Mr Dawsey's 'Review' all the front end. Anyway, after sifting through the rubbish, I felt that the best machine was...the Archimedes. However, although outclassing most of the others at most things, it was left that lack of software meant it couldn't be recommended. This was exactly the same as your 'Anigast' comparison a few years ago. You said the Anigast was excellent, but you recommended the ST because of software. Came to do an HONEST ST, Anigast, Archi, Comparison?

Anonymous

WHAT ARE you raving on about? All the reviews in Express are honest - we have no affiliations with any third parties. We'll be doing a three-way head to head in the not too distant future. Want to take a guess now which machine's going to win? Clue: It won't be the Archimedes.

Gratuitous?

The article portraying the picture of the exploded Challenger shuttle was indeed tasteless and somewhat irrelevant to the advertised product. (It was a news article actually - HFW) When you advertise a new flight

simulator you do not show a photograph of the Lockheed disaster or public images of the ST1 tragedy, why should a space shuttle simulator be any different? Mr R Smith and Mr J Vaughan, Newcastle, Cleeve, Leicester

THIS SUBJECT appears to have generated more correspondence than any of late. I apologise last week and pointed out that some people find black humour funny. Obviously you're not one of them so how about taking this fact on board?

People die all the time, it's the biggest fact of life. And now which some of the more enlightened among us learn to live with by not treating it so damn seriously.

Guilt complex

Regarding your jokes about the heroic NASA astronauts, I would like to say that you are not big...and you are not clever. My brother was an astronaut and he was killed in the way. And he was a spastic. So I hope you feel good about it, as I certainly don't.

Anonymous

I'M VERY SORRY that I may have caused you, or your dear spastic astronaut brother, offence. Personally, I don't believe he ever existed.

Atom power

I read that Insoft are marketing the Recall system for CGS. I have had a somewhat similar system for years, which only cost a few pounds...This is the 'Gibson' chip on my old Acorn 'Atom' computer. One just types FMD 'whatever' and the whole item containing the word appears on the screen. My old 'Atom' with its Olivetti disk drive is the best computer I've tried to use since anyone else out there still using one?

Mr A E Dickinson, London

What a bind

I'm sure you lot at NCE have heard of Anigast Shopper? I know the new magazine by Future Publishing? Yes? Good, now if you pick up a copy of issue two, and turn to page 111 you will find an offer to take out a subscription and also order some binders to put your vast collection of Anigast Shopper back issues (all two of them) into.

Now why is it that this new magazine is already offering binders after only two issues but New Computer Express (also by

Future Publishing) has yet to offer to readers binders even though it has been in existence for over two and a half years? I think we, the readers should be told.

Matthew Owen Brooley, Kent

BINDERS are available from Future Publishing, The Old Barn, Somerton, Somerset BA50 7AD11. They're £5.95 - but hurry there's only 100 left!

A new car

Okay Mr Haydn Fitz-Williams that does it. I have just about had enough of your complaints and snide remarks, just what is wrong the Fiat Uno.

It is a very good car, economical, roomy inside, yet small on the outside, reliable and, if you remember, was voted car of the year when it was released. Maybe it's just the dead version that you don't like, well if that's the case then I will gladly give my trusty 1300 for your diesel any day. If you don't like the car then why did you buy it in the first place?

Peter West Robinson, Surrey



*** Top readers I said the Fiat Uno so I could afford a full page wonder for my Mac IFFX ***

TOO LATE I'm afraid. I bought the Uno some weeks ago and flogged myself a battered 1988 BMW 2002Ti. You'll be pleased to know it can start from standing in fourth gear with 4 passengers on board. Almost as much raw power as my Mac IFFX, and Jeep does it all along - anyone got any spares?

Pure GEMS

I hope I may add my prejudices to those of your other correspondents concerning WIMPs and GIMs. Stewart Russell was right on with saying Suntools is not the best of GIMs. On top of its key arrows, multiple nested popup menus, and three buttons mice with different functions for each button, I was amazed when I compiled a C program to print 'Hello World' in a window - the program took up 556K!

As far as the ST is concerned, as I understand it the reason GEM was so bad was because Apple

wanted it that way. They patented the idea of turning a trackball upside-down, or rubbish tin (GEM for the OS had to be changed); etc. Thus GEM had drop-down menus and a limit of 4 windows. I also heard that future versions of GEM on the PC were not allowed to have overlapping windows!

Carl Muller-Talbot, London

Sexist crap

I feel that I really must write this complaint about the sexist innuendo that seems to be creeping (that being the operative word) into what has always been a fine publication.

I actually have never owned a computer myself and knew almost nothing about the computer world. I was introduced to your magazine by a Mac owning friend and fell into the habit of buying every edition.

Unfortunately I shall no longer be doing this as, to my mind, the magazine has sunk to the very depths of Bohemian depravity. Headlines such as the one on page two of issue 132 (CAD gets the human touch) page three (appropriately enough) Bush pushed the button and page 8 (COTV/The extras) are not clever, they are vulgar and tasteless and highly demeaning to all women. I have no doubt that the entire staff of New Computer Express must be made up of filthy middle aged men in raincoats whose ignorance is so deep-seated that they are utterly incapable of writing articles without resorting to their most basic of instincts.

Ms R Ranshaw-Hidborough

Dolphin Love

I read with some amazement the other day about the man who was up in court for having sex with a dolphin. It set me wondering, are there any readers out there who've had sex with their computer?

Mrs Dorcott, Exeter Somerset



*** Freddie, the naked dolphin at the centre of the current court case pictured in his natural pool**

PHW... now there's a new angle. ■

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AMIGA

- New book unlocks the mysteries of C programming.
- 3-D gets even more animated in Professional upgrade.
- The hottest games on the Amiga revealed.

AMIGA C EXPLAINED

If the C programming language leaves you completely mystified, then no doubt you'll be interested in a new book launched by Bruce Smith Books, publishers of the well received range of Mastering Amiga titles.

Regarded as a 'complete C learning course', Mastering Amiga C is the third release in the Mastering Amiga series. It is bundled with the Charivari C Compiler, North, and is a great value at £19.95, a complete C programming environment and all the information you need to use it for, less than the price of an average Amiga game, sounds too good to be true!

The book has been written by Paul Andrews Overa, a freelance journalist who has made his name on such publications as *Futurity's* own *Amiga Format*. Paul has been writing about technical aspects of the Amiga ever since its release, so you can be sure that he knows a thing or two about his chosen subject.

The book starts with an in-depth look at the basics of programming in C, including types, operators and expressions, input and output as C structures, data types and pointers etc. Once the basics are discussed with, there's a look at Amiga specifics.

As well as complete documentation for the bundled North compiler, the book also includes an appendix look at both the Lotus/SAS compiler and the Macraider compiler.

For Bruce Smith books is an 0727 412443.

MORE BOOKS...

The three Mastering Amiga publications from Bruce Smith are only the first in a long line of books which the prolific publisher wishes to bring onto the market. Titles due for publication this year include Mastering Amiga Beginners, Mastering Amiga Pro, Mastering AmigaDOS Scripts and Mastering Amiga System.

Also planned are titles covering

such subjects as machine code, BASIC programming, disks and hardware.

3-D PRO UPGRADED

Fans of Progressive Perspectives must embrace 3D Professionals will be pleased to learn that a major upgrade is on the way.

Version 2 of 3D Pro boasts much faster operation, a better scene editor, the ability to import 24-bit backdrops images about new tool, improved animation tools and much more besides. Expect to hear more soon.

TOP TEN TIME

I have received a letter from a Peter Whitehouse in Manchester. Peter has just taken the plunge and treated himself to an Amiga 1500 system which he bought both for his personal use and for his three kids.

Knowing how great the Amiga is for games, Peter wants to know which games are worth buying. With so many good games available, I thought I would list a better idea to present my top ten Amiga games of all time. Obviously there are many more worth buying, but this little list should give you an idea of some of the goodies available.

Lemmings (Pyrosoft) - The list of Amiga games would be complete without Dave Jones' classic Lemmings. It's only been available for a matter of months, but already it has gone down in history as one of the all time greats.

SideWinder (Mastertronic) - Originally launched as a budget title, Mastertronic's SideWinder is a shoot-'em-up like no other. It's fast, it's frantic and it's extremely violent. What more could you ask?

Dungeon Master (SirriSoft) - You don't need to be a role playing fanatic to enjoy this Amiga exploration game. You guide a team of four adventurers into a dark, dank dungeon, picking up treasure and killing monsters along the way. Totally absorbing.

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Containing 329 large-format pages Mastering Amiga C is applicable to all major releases of C and is specific to learning C on the Amiga. It assumes no prior knowledge of C and contains more easy to follow tutorials. Mastering Amiga C will be available in the first half of May - no cheques or credit cards will be cashed or debited until the book is dispatched. Order today to avoid delay!

Mastering AmigaDOS - Volumes 1 & 2

The acclaimed two volume set that covers versions 1.2, 1.3, 1.4 and 2 in AmigaDOS is written by the Consultant Editor and industry guru Mark Smith, along with Bruce Smith.

Vol. 1: A complete introductory tutorial on AmigaDOS, 368 pages for just £21.95 including a free Utilities Disk when ordered direct. Amiga Store says: "... one of the most comprehensive and useful books available on AmigaDOS." - Carl Remshaw and Jeff Walker.

Vol. 2: A complete reference guide to all commands, 320 pages for just £17.95. AmigaStore says: "You must find it better guide to, or a more useful book on the Amiga than this - unless it turns out to be Volume 3." John Walker.

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THE 'NOT THE PD PICK OF THE WEEK'

I know what you're asking - where's the PD demo feature that I promised to bring you every week in issue 131 of Express? Well, the strings and laws of Express!



• The NewWeek disk magazine from Seventeen BT is essential reading for all Amiga enthusiasts.

publishing deadlines (and my laziness) have done their worst again, but I promise to continue the series in next week's issue. In the meantime, Seventeen BT should like me to let you all know that it has dropped the prices of its disks. Down from £1.50, you can now experience the delights in PD games for just 99p!

On the subject of all things Seventeen BT, I must take this opportunity to plug its NewWeek disk magazine, expertly put together each month by everyone's favourite letter writer, Marty, near a girl friend.

As well as the usual mishmash of decent articles and demos, the NewWeek magazine is full of humorous articles and news.

BT Seventeen BT is an 0824 369982.

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Kick Off II (Arcol) - The ultimate footy game on any micro. It's fun played against the computer, but it's a real cracker when played against a human opponent. Even if you hate football you'll love Kick Off II.

Sim City (Infocom) - Have you ever wanted to be the mayor of a city? In Sim City, you are just that, making decisions that every good mayor must take. Your skill and judgement will directly affect the fortunes of your computer generated city. Win awards for educational value but don't let that put you off.

Lexus Expert Challenge (Infocom) - Not since the days of Epos's PitStop 2 on the OS4 has a driving game been so damned playable. I must admit to being a bit of a boy racer on the quest, so Lexus Turbo Expert really appealed to me.

F29 Retaliator (Kosmos) - It may be rather beggled, but there's no escaping the fact that F29 is really good fun. Fly your lightning jet fighter into the thick of battle, canards a blazer!

Great Glens Sisters (US Gold) - Make no mistake, Great Glens Sisters is

a blatant ripoff of the arcade classic Super Mario Brothers, but you'll feel instantly at home with this finely tuned and brilliantly implemented platform game.

Battle Squadron (Discworld) - Another absolute classic street-warrior. The vertically scrolling game format may be rather dated, but the action doesn't come much better than this. Prepare to be frustrated!

Rainbow Islands (Discworld) - Delicately Andrew Braybrook's latest hour in the brilliant comic-themed genre, you must save the Rainbow Islands from the monsters that inhabit them. Platform action at its best.

JOYSTICK CHOICE

Staying with Peter's letter, he also wants to know which joystick I would recommend. Well, this is a case of personal taste, but I personally use five Kensington joysticks which I think are great. I've used a fair few joysticks in my time, but nothing ever comes close to the amount of control and comfort that the Kensington delivers.

Jason Helborn

- 3-D crop-dusting action from Command team.
- No more monitor swapping blues with Monitorator.
- Superb sounds from a super new 16-bit sampler.

DUSTER COMMAND?

Remember when the storming Commander first appeared on the ST? Its brilliant blend of strategy and arcade action took the games world by storm. In fact it could be argued that it was one of the best games ever for the ST.

The software development company responsible for it, Realtime, followed it up with a tank game called Battle Command which proved that it was an innovative company with refreshing ideas about games design. The good news is that the team is working on a new title called Duster.

This new game - a combination of 3-D tiled vector graphics and a management section - looks certain to follow its two predecessors to the top of the charts. You control a crop duster which can combat a plague of wicked monsters. However, the interesting aspect of the game's development is that it is the result of a collaboration.

Power Software is the team which brought you the ST versions of the Fatcat Mission disks and the awesome flight of the intruder. It has joined forces with Realtime to get Duster onto the shop shelves. Warminster reckons that the game should be ready for an Autumn release. This is one game reviewer who wants an early copy.

Hi-Res TV

One of the enduring problems associated with the ST is its screen resolution. It may not be as very well having three variable resolutions at your disposal, but when you have to change monitors to see all three, it becomes a bit of a pain. This is no doubt why monochrome emulators have proved such popular fixes in public

domain libraries.

However, professional software houses have looked at the situation and decided that they can improve on the first versions.

The Monitorator from Monitor Software is the first hires monitor to appear commercially. The company claims that its monitor enables an ST running a colour monitor to display high resolution graphics with no loss of display quality.

Monitorator runs 80 per cent faster than the public domain program Mono, and displays 1M 256,000 hires pixels. The software is user-configurable via a disk accessory program. The program, which is compatible with all STs, uses a special user mode to display crop test, boasting speeds by over 30 per cent.

Release date for the Monitorator is the beginning of June. It will be priced at £19.95.

Monitor Software is at 55 Berris Road, Pound Hill, Crawley, West Sussex, RH10 3AT. Tel: 0293 538215.

16-BIT SAMPLING

Whatever the depth of your pocket, there's a sampler to match in level at the last count there were at least ten different samplers available for the ST ranging from £20 right up to £250. But if you're serious about your sampling hardware then the perfect piece of kit has arrived for you.

Audio Visual Research released the highly acclaimed Pro-series 12-bit sampler almost a year ago. We've heard little from the company until recently when its 16-bit sampler was



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(continued on next page)

TOOLBOOK AND A HALF

Toolbook is an intriguing 'script language', hypertext-type package. It gives you the opportunity to create all manner of business, personal and leisure applications, such as elaborate databases, animated presentations, pretty front-ends to existing programs, games, etc. etc.

Initial reviews gave Toolbook a guarded welcome. Guarded because, even on a swift 166, Toolbook was sluggish.



• Asymetrix's Toolbook 1.5 comes with many more scripts. The scripts for QuickView, the on-line tutorial and for Desktop, the 'personal scheduler', among others, make it easier for you to modify the applications for your own needs.

had replicated 63 times before I noticed something was wrong. Scan and Copy saved the day, spreading space where pixels once reigned.

Available from all good PD libraries and bulletin boards.

A TALE OF TWO SIMS

The PC version of F25 Retaliator has finally arrived and, while I am still disappointed in the final extension of the game (caused by a sorry tale of piracy, missed opportunities and horrendous deadlines) (in glad to report that the PC version is the best of the lot).

Many of the bugs found on the Amiga/ST versions have been cleared up. The screens have been tidied and the manual (written by Yours Truly) has been wonderfully rewritten - albeit.

There are many highlights to F25 Retaliator including super smooth 3D and the addictive head-to-head action.

Onto US Gold's new Velocity Software's Jetfighter 2 with the news that Big Bob Doneman is back! The man who gave us Interceptor and Jetfighter 1 too surprises them on the PC returns with his latest tale of

"No more!", says Asymetrix as it has the latest version, 1.5. Apparently the program now writes to the screen 30-40 per cent faster than before. In addition, you can "choose to have objects on the page built off-screen and displayed simultaneously for smoother display and more realistic animation."

Other refinements for advanced programming include the removal of the limitations on the size of pages, scripts and bitmaps. Actions can now create buttons and fields that behave like controls in Windows dialogue boxes.

The new Toolbook can also print pages in colour and at full printer resolution with page-scaling to fit the specified paper size. The script editor has multi-level undo and search-and-replace options and context-sensitive help is available for Toolbook and the associated programming language ObjectScript. Finally, there is a free-galle called Toolbook Ideas detailing Toolbook applications for prospective authors.

Toolbook costs £210. Asymetrix USA is offering 1.5 upgrades at \$75. However, anyone who bought Toolbook after April 1 can upgrade to version 1.5 for free.

everyday pilot life.

The new thrust of this new version (in addition to full VGA implementation - graduated binoculars, digitised briefing screens, etc) is the choice between playing an individual mission or flying The Adventure.

In this you are a member of a sort of aerial special forces team which has all evasive manoeuvres from California. Confront your IQC missions (this option is lacking of fun).

For in Bob Doneman, at over, really. Technically, he's already been surpassed by the big boys and there are other sims to buy if you yearn for realism. However, if you simply want to enjoy myself, buy Jetfighter 2.

ADIEU

As this is my first time (possibly) I would appreciate a few letters to keep me from becoming lonely. Problems, hints, news and views - you name it, I'll read and post (most) of it. Please send any correspondence to the usual Express address: 30 Monmouth Street, Bath, Avon, BA1 2BN.

Paul Rigby

THE MONSTER STEREO CARTRIDGE

Stereo sound on ANY ST? Don't make me laugh.

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continues, and apart from the little clay duck you can shoot ducks flying across the top of the screen for extra bonuses, as well as coins and lovely flying anemone!

The best news of all is that the gun is really accurate – much more so than it was with the original software. Instead of being a novelty, the gun is a really good games playing device.

KIDS' STUFF?

I've just been playing the *Alien* game on the Speccy (yes, I know, horrible isn't it?) and I was shocked! The language, you see, is extremely specific.

I'm told the packaging will have a "Warning to children" warning on it, but will that be enough? There's a story seller ahead, mates!

Anyway, what about the game itself? Well, it contains all your favourite *Alien* characters, but concentrates on three in particular: Johnny Farpants, Buster Gonard and Billa Bacon. They're competing in a kind of obstacle race, punctuated by humorous sub-games, and that's about all there is to it.

I'll give you a full report when I see the Amstrad version, but don't hold your breath. I think this one will be good for a few quick laughs and not too hostile.

THE END IS NIGH?

Steve Smith from Liverpool thinks the CPC is on its way out. Why? Well, let the man speak for himself:

"It looks like the CPC is in its death throes. Surely not? Here are the signs as I see them:

- The lack of sales for the G4000 and Plus machines over the introductory Christmas period. I believe that these did sell well on the continent, though, which is good.

- All 8-bit machines are relatively outmoded due to progress. People want 16-bits and PCs as they are the natural progression. Here the colour TV was to the 286k TV, or the electric light was to the gas lamp, come to that.

- Consoles seem to be becoming very popular with the trade. Although they are good for cutting out piracy, I doubt consoles are as popular with the older users of less nimble computers, be they 8-bit, 16-bit or PCs.

• Activision has already said it will no longer make 8-bit games.

I realise that CPCs have a good few years left in them yet, but it must be said that the CGA is almost dead. After all, who but an enthusiast would now buy a Ford Anglia as opposed to a Sierra or Fiesta?

"I don't really mean to sound like a depressive yet, I am just being realistic. I think about my beloved machine's future. After all, I don't want it to have to fork out for another machine and a new crop of expensive software."

What do we think of that, folks? Do we agree or disagree? I think Steve's letter raises some interesting points, if only because it demonstrates some of the current misconceptions about the computer market.

First, the G4000 and Plus did do comparatively badly over Christmas. Yet this is due to reasons, a my console, unrelated to the technology involved. With software in such scarce supply over this period, it would be surprising if the machines had done well. Don't forget too that Sega and Nintendo are having their best times yet with sales of their 8-bit consoles, so you can't say no-one wants 8-bits any more!

Second, you can't really describe 8-bit machines as being "outdated". Steve's gas and electric lighting analogy is entirely inaccurate, because the only difference between 8-bit and 16-bit computers is power. It would be fairer to say that 8-bit computers are like 40-watt bulbs and 16-bits are like 150-watt ones. 8-bit technology isn't obsolete just because it was developed first.

Instead, since lower technology is always cheaper to manufacture than higher technology, the 8-bits have formed their own budget market.

Third, yes, consoles are popular with the trade. That's because they're popular with *everybody*, so they might, most manufacturers have trouble selling millions of things people don't want.

Finally, although Activision says it has pulled out of the 8-bit market, that's the 8-bit home market, not the 8-bit business market. The days of the 8-bit home market are numbered, it's true, but I don't believe the market is going to collapse overnight. I think what we're going to see is a gradual decline as 16-bit technology becomes ever more affordable.

But will you ever be able to buy a 16-bit computer for £150, or 16-bit games console for £80? Until that day, the 8-bits will be with us. Here's wishing today's lesson.

Rob Lawton

Rob Lawton is the editor of *Amstrad Action*. The next issue hits the streets on June 20.

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TURRICAN AGAIN

Fans of the superb Turrican and Turrican II should be delighted with the news that Rainbow Arts is preparing a second sequel, called, would you believe, Turrican III. Little is known

about the game at the present time, but rest assured the *rainbow* / *shoot* / *explode* aspects will remain intact.

One thing is for certain, the game will not be written by programmer

(Continued on next page)

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LEMMINGS ON THE C64?

After the colossal success of Lemmings on the 16-bit machines, the usual chatter about a C64 version began to fly around. Any programmer worth his salt would instantly chuckle at the very thought: the 64 has eight hardware sprites, and although they can be multiplexed only eight can be in a horizontal line.

The Amiga version of Lemmings has hundreds of rodents wandering around. If an 8-bit version goes ahead it should be very interesting to see who leads the job and, more importantly, if they can actually pull it off.

genius Mithael Toner. Turnaxe it was his last game for the C64.

In the meantime, why not trust yourself to the aforementioned Turnaxe? It's probably one of the best games around at the moment, and continues the usual gameplay with a vertically scrolling section, plus a very Derain-esque shoot-'em-up level.

And I guarantee that the final guardian on level five will make your very eyes pop out!

HOT POKES

Alright, so you've squandered all your pocket money on the latest software sensation, only to find that you can't play it to save your life.

Never lost, here are some pokes, cheats and tips for some of the hottest releases...

Shadow of the Beast - On the title screen, where the scroll message tells across the HDU, type in: HDH 540 BF THE FAST3D (with spaces). The enemy indicator at the top left changes colour, and you can start the game with bodies of enemy.

Monkeys - On the title screen type: WILSPLEER and the Thelamus logos start to flash. Your infinite lives with which to play. But be warned that you can only reach level nine using this cheat. A more honest way of earning cash at turn is this: if you get past level five without losing any lives, a secret level will lead to before level six. Here you can collect millions of lives and bonuses.

Dizzy Collection - For infinite lives, enter the relevant pokes for each game (Action Replay only, I'm afraid):
Dizzy POKE 15942,173
Fantasy World Dizzy POKE 0602,173

Magicaland Dizzy POKE 0660,173
Fast Food Dizzy POKE 20A05,173
Wink Dizzy POKE 37621,173

DEMO FEVER

After my look at PD software a couple of issues ago, I have again been flooded with disks from Binary Zone PD.

The first this week is a strange demo with the even stranger name of *Wz Up A Gz*! It starts with some poscise 3D effects, and a very Flash Gordon-esque tune. Following this is a very colorful game, some bouncing balls, and then a nice graphics slideshow. The pictures are colourful but lack reason.

Finally, a couple of lagers and then the ring on the cable... the letters WZ fly towards you in unrelenting 3D.

The next magazine is *Legacy*, and after a wonderfully drawn title screen comes a very Amiga-inspired section, complete with rotating logo and best 3D vector graphics.

Next comes something which I thought I'd never see on a C64 - stereo vectors. The result is simply brilliant.

Then there is the ubiquitous scrolling message with a 14932 difference, a real 3D-looking screen, some more zoom test, a picture of a very scantily clad lady with some 3D objects over her top, and then a rather picturesque and to the demo; a lovely panoramic mountain view overlooking a lake, accompanied by the music from *Turbo Outrun*.

The next is a mini-magazine from 85 Studios which begins with a gorgeous picture of an angel (some of these demo guys are really talented).

After a bog standard scroller comes a great FU logo built thousands of colours complete with a sunset strip at the bottom. The demo concludes with an epic picture and some equally epic music.

The final demo of the bunch is my favourite at the moment, and goes under the name of *MC Godfist* (it features an excellent cartoon elephant complete with a baby elephant on her back) running along the road at a great hurry.

She stops at traffic lights, has a drink, and falls down unpleasant holes. Silly, but a good laugh.

SUPPORTING ACTION

If you own one of those boxes of bricks known as an Action Replay cartridge, then you might want to get your hands on an interesting title then known as *The Graphics Support Disk*.

Available from Data Electronics at the more on of £19.99, it will help you to spend a little bit more out of your cartridge. The name suggests on the disk is a demo maker, and as its name suggests, it allows you to create stand alone demos.

First, you can load in a bitmap picture (saved using the Action Replay cartridge) or sixteen screen frames on that, and then you can load in a list for a scrolling message. Alternatively, you can create your own notes using the editor supplied.

Next is the music, and the music maker is quite successful with the majority of its Hubbard tunes, but there are five demo tunes on the disk in case you can't hack it.

Once your picture/frame/music has been loaded in, the Demo maker will mix the whole carboard together and create a well... action demo.

Now the screen/sprite is a bit special. Say, for example, you have *Unlump* in the middle of a game and stole the screen. You could load the file back into any C64 and the screen would be displayed for you just like a screenshot in a magazine, complete with sound.

It can also show character sets from practically any game, and furthermore they can be loaded into utilities such as *Graphic Editor*.

What the practical uses for this are, I don't know, but programmers could use it to find out screenshots of a game without actually opening the game to play.

Data Electronics reside in Devon Road, Fenton Industrial Estate, Buxton, Derbyshire-Trent, S14 2RS.

Andrew Roberts

Andrew Roberts is a regular contributor on Commodore Format.

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SPECTRUM

- File copying in Plus D made simple with The Copier.
- Give you games depth with 3-D Construction Kit.
- Phone up the Phantom fanzine for chat and charts.

COPYING ON PLUS D

After years of having little to report on the subject of the Doscopy/Plus D disk system (we have positively overcome our inhibitions on the thing), here you find Plus D users don't mind me mentioning it again this week.

Malcolm Perry of Words has written to me about a new utility for Doscopy/Plus D owners called The Copier. Unsurprisingly, this turns out to be a program that copies files and Malcom reckons it does this as a far superior way to the standard, often unreliable COPY in the Plus D.

Strangely, the program comes on 1000 and 1000s (due to disk or first loading). The main plus points of its utility, Malcom reckons, are the fact it does not need the Spectrum each time a copy is completed and the fact that "it will copy all the files that the Plus D has (some other programs) will not, e.g. Snapshot, OpenType etc."

A further boon is the user-friendly nature of the package which asks if you want to retry if it looks a corrupt sector and apparently has a clear and helpful screen layout.

To conclude his recommendation, Malcom says, "For anyone frequently handling files, backing up disks, moving files around, adding up disks or with a lot of files that Plus D DOS refuses to copy then this routine is a must."

That's a pretty healthy recommendation from someone I assume not related to the author.

The Copier is available for £5 from Shorn Young, 21 Colchester Road, Southland-on-Sea, Essex, SS2 5SH.

"ERE, YOU GOT ANY DIRTY COMPUTERS..?"

Talking of unusually large cheque bills, did you realise that it's not only ways say that you can reach with 0000 numbers, Bruce Evans, a bit of a computer industry entrepreneur, has been running a computer-related phone information service for some time now, and has made available a credit card style information card.

This is a chunky piece of plastic with the number of the various 0000 computer helplines painstakingly laid

out into it. If you want one to look need to your American Express simply straighten SA to Bruce Evans, PO Box 71, Knebworth, Herts. SG5 3DA.

BOOMING FANZINE

Anyone out there with a modern should forget about their phone bills and check out the Phantom bulletin board. Its on-line Spectrum fanzine, Boom, is back and needs to be said, bigger and better than ever before.

Sections include reviews, tips, a chatline, charts and a SAM specific screen. Phantom BBS is a Novdata host open 24 hours a day.
☐ Phantom is on 0226 340425.

GETTING TECHIE

Not in particular about telling my Spectra what to do and usually the way from anything more complicated than typing LOAD - or saving it.

There are, however, some clever people out there who know the secrets of our machine and can manipulate it to perform impressive tasks. Luckily one such person is Adam Tomkinson of Riverways and he's willing to reveal all for the general good of the Spectrum using world what a sound choice.

Here he discusses some more morsels on the complicated workings of the MOVE command:

- The MOVE command can be used to change the access using @ your files or to rename files. You could, for example, type MOVE "MYPROGRAM" TO "M PROGRAM" to rename the file MYPROGRAM TO PROGRAM on the RAM disk.

- You could also use A, T, B, or M for drive A, Tape, drive B and RAM disk, respectively. MOVE cannot be used for renaming files between two sources so MOVE "A:PROGRAM" TO "M:PROGRAM" would not work.

- Access strings are very useful except in one case. The strings are P, S and A. The basic command goes MOVE "FILENAME" TO "P" or "S" or "A". The P stands for Protection and makes the file unerasable.

- To reverse the process you use the same command but with "P" instead. ☐

[Continued on next page]

CREATING GAMES IN THE THIRD DIMENSION

The 3-D Construction Kit looks set to be one of the most important Spectra releases for some time. With a bundle of "Build Your Own Virtual Reality" it will allow you to create 3-D space like Driller and Castle Master from your very own ME computer desk.

Obviously we'll have to wait and see how good the finished product is, but personally I think it's a good thing that the Spectra's not considered too limited for such epic productions. Let's hope other software houses follow Incentive's and Dream's lead and don't leave the Spectra out of their plans when releasing highly complex, memory intensive mega games.



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shows System Status. This is a goodie. It makes the chosen filename visible to a normal CAT. You would have to type CAT EXP to see the file you have chosen. ICAT EXP is basically an expanded version of CAT. It will tell you if the file is basic, hex etc. This is good if you want to keep your files from inexperienced users.

Finally, A stands for Archive. Adam doesn't know much about it and neither does the manual. Apparently, it's concerned with the Plus 1 and Plus 2A launch disk about the same machine and their compatibility with the CP/M operating system.

MAGICAL POKE

The over-familiar Magic Mem, has just sent me some more Pokes and as customary, it's going to respond with the usual loving display of gratefulness. So, eternal thanks go again to Mark, surely the best Scotland owner in the whole of Faversham (near Kent).

To get his back for Slightly Magic writing just:

- 1) Type in the following routine and SAVE it if you think you are going to need it again
- 2) RUN the thing
- 3) Start your game tape from the beginning

10 RUN SLEIGHTY MAGIC
55 FOR 3002434 TO 3001: READ
A: IF A

Robin Alway

MACINTOSH

- Was System 7 rush-released?
- Is the Hypercard virus anything to worry about?
- Word processor, database, graphics – Desk has the lot.

SYSTEM WHAT?

The most memorable that the column is written will occur a week in advance of publication. So, as I sit here on Saturday afternoon, the official launch of System 7.0 is still a day and a half away. Apparently the golden masters

Master-disk for the disks which are actually duplicated several million times were a day late getting to the duplication factory, but the launch is still on schedule for Monday morning.

Actually, the way that the master System 7.0 disks were chosen is rather

interesting. Since early this year, developers have been receiving beta versions of the System to help them prepare their applications and upgrade them to take advantage of System 7.0's new facilities. The betas started (surprisingly enough) at 7.0b1, and progressed through until the first relatively stable, stable version – 7.0b4.

Essentially, what happens is that developers and beta testers report any problems with a beta version, and these problems are fixed in the next version (inevitably). So, for instance, 7.0b4 didn't work with Microsoft Word, the compatibility problem would supposedly be rectified in 7.0b5.

But these bug fixes are written with

EVERYTHING BUT THE KITCHEN SINK




• Spreadsheets, wordprocessors, database, graphics and more... all for £150. How could you say no?

if you've just bought a Mac and are looking for a wordprocessor, a database, some sort of graphics program and a spreadsheet, you could do far worse than take a look at Desk, from Zedcor.

Desk is an integrated set of all the above applications plus a paint and a draw program and a comma package. They are accessible as desk accessories from the Apple menu, and so are available at any time.

While the programs are not as fully-featured as full-size applications, many will find them perfectly adequate for almost any job. The word processor, DeskWrite, can save files in MacWrite format, which can be read by virtually all applications. The paint package is good and allows you to work in colour or black-and-white. The spreadsheet can read and write SYLK files (which virtually all other spreadsheets can understand), and the database is perfect for small-to-medium applications.

The real benefit of the Desk suite of programs comes when you discover the price – just £150 for all sized applications. At that price, you can't go wrong.



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no regard to the stability of the product as a whole – so by 7.0.3 the software was compatible with most things but suffered major stability problems. This is standard in complex software, and version 7.0.4 was altered to cure the stability issue.

Since beta 4 there have been at least five other versions, each of which has had major 'betas' to cure other problems which came to light as development proceeded.

As the deadline for disk duplication grew nearer, each of the new betas was considered as a final candidate for the golden master, the latest beta available at deadline time was the one which changed its name from 7.0.4 to System 7.0.

Of course, this raises questions as to whether all the bugs have been removed from the new System.

Well, the answer has to be no – it's virtually impossible to totally debug such a large and complex piece of software. Indeed, some readers have reported that as many as 1,500 minor bugs have been found but could not be fixed by the release date.

Don't let this worry you, though – System 7 should be at least as stable as 6.0.7, and hopefully rather more so.

One more bit about System 7.0: will your applications be compatible? Along with the System upgrade disks, Apple is shipping a compatibility checker in the form of a HyperCard stack which will scan your hard disk and tell you which of your applications won't work under the new System.

Of course, it can't state details of all possible difficulties and this, but at least you'll be told if your major applications will work.

One that definitely doesn't is Turbo Pascal – and there's no upgrade planned. A shame, because it was a most programming environment.

Another incompatible application is Norton Utilities for the Macintosh 1.0. Speed disk works (although you'd be advised not to use it in case of crashes under the new System) but the main Utilities application takes one look at your hard disk, tells you that it's incompatible and quits. There is good news, though – an upgrade will be available (Norton Utilities 2.0).

available (Norton Utilities 2.0).

Programs which seem to have little or no trouble include MacPaint, Microsoft Word, Quark XPress and most other major applications. Of course, they won't be able to take advantage of new features like Publish and Subscribe, but at least they will run.

INFECTIOUS STACKS

There has been something of a panic over the announcement of a new virus, which infects HyperCard stacks.

Readers have been concluding that the virus will trash your hard disk, erase your data, blow up your Mac and so on, and so forth.

In fact, on a set date later in the year, any infected stack which is opened will print a short message and then play four German folk tunes. And that's it.

Some of the commercial anti-virus packages have been upgraded to detect the virus, but John Norstad, author of the public domain anti-virus program Disinfectant, is reported to have said that he will not be upgrading his Disinfectant 2.4 as it is too easy for HyperCard virus writers to get around any protection which he could write.

Incidentally, Disinfectant 2.5 (expected) is being rewritten to be fully System 7.0 compatible.

Ian Wrigley

POSTCARD FROM AMERICA

Do Not Fold Spindler, or Mathias. I caught Apple's chief operating officer, Michael Spindler, at NAB/Expo '91 – the National Business Exposition. He gave a bounding speech in the new wing of San Francisco's Moscone Center.

I took the escalator upstairs, and almost flew out the window. The glass used in the new construction was still drying and everyone was high, the same damn why I couldn't keep my eyes open through the entire talk. Zzzz... Apple... zzzz... Apple... zzzz... zzzz... zzzz...

His last line was on the attitudes of computer professionals: "No one wants to be an end user... who in the history of human behaviour wants to be a terminal, dumb, or intelligent?"

There was a little translation problem in the speech. Spindler's English is very clear now, but he used a Macintosh-like that went over the heads of his concerned line audience. When talking about new system access data, he said: "When you double-click on the chart." Double what?

Poor Spindler, he thought he was finished for the day when he

headed out the conference doors, with his entourage of Apple marketers. Not quite.

A Reuters reporter picked out a line from the speech – "I'm terrified about when my fiscal 1992 revenues will come from." I remember that he said this twice, referring to the climate of information analysis, and the needs of managers for timely results.

The reporter, though, took this to be a comment on Apple's future. After a bit of creative editing, the story got even better.

Spindler became Apple's Chief Executive Officer. Interestingly, "Apple expanded its product line to include personal computers." Of course, they must: low-cost computers. They've actually been selling vacuum cleaners door-to-door, and are leaping into the microcomputer market.

This story played on the radio, and was slighted in small town newspapers around the US. A day later, after Apple public relations got them straight, Reuters sent out a revised story.

David Hargreaves

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WHOLE WIRED WORLD



Steve Gold digs out the juicy computer stories from around the world. This week he's found Apple testing a new multimedia system, Dell has been slashing prices, bigger drives are being prepared for the Mega ST and Matsushita is shrinking...

BIGGER, BETTER ATARI DRIVES



• Atari ST: high-density drive soon

While existing Atari Mega ST and TT owners still have 720K floppy drives, the rest of the Atari range have 1.44MB drives.

The reason for this is that the Western Digital controller chip used by Atari does not currently run fast enough to support the high-density disk format.

According to Ron Kovacs, Z-Mac online newsletter, Atari is having closely with Western Digital over the development of a new custom chip for the Mega ST and TT series. The problem is, of course, what happens when the high-density disk format becomes standard on the machines?

No problem, says Z-Mac. Atari used a plug and socket system on both machines, instead of the cheaper direct-soldered system it usually uses. This will allow existing users to upgrade to the new digitized when it becomes available later this year. Now all we need is a cheap source of high-density disk drives...

MAC WORDPERFECT UPGRADE

Just days after Apple announced System 7.0, WordPerfect Corporation has announced version 2.1 of its word processor for the machine.

According to the US software house, v2.1 will take advantage of all the capabilities of System 7.0, including the

While everyone in the Mac industry is busy looking over System 7.0, the Mac's new operating system, a few selected developers are being shown a new technology system called QuickTime.

It is being billed by Apple as having far-reaching implications of the same magnitude as Hypercard, it's a concept that's difficult to put into words. According to Apple it "increases the bandwidth of what can be presented on a personal computer."

QuickTime is, in fact, the medium that Apple hopes will act as the glue to

hold video, sound, animations and pictures together in multimedia systems. Unlike multimedia systems on the PC, QuickTime allows multimedia applications to be integrated in windows on the Mac - with other applications software running concurrently.

QuickTime runs as a 3.5 inches square window on the Mac screen. There are three parts to the system - a movie editor, a compression manager and a component manager. It will be officially unveiled by Apple on June 5. Prototypes are being shown privately at Comdex in Atlanta, Georgia, this week.



• New Mac: new multimedia angle

Editor Manager, Balloon Help, Alphas, Trustype, Virtual Memory, and Apple Events. The software, which was due to be announced at Comdex Spring in Atlanta, this week, will ship during the third quarter of the year.

So what are all these extra features of System 7.0 then? Editor Manager allows users to dynamically share data between applications on the same machine or across a network. Balloon Help, meanwhile, supports a series of pop-up balloons that guide the gentle user through the Mac's operating system using a series of pull-down menus, dialogue boxes, and a host of other very useful facilities.

In the US, WordPerfect 2.1 for the Mac will sell for \$495. That should translate into around the £300 mark by the time the package appears in the UK. Although you're unlikely to save much money by ordering direct from the company's US operations, WordPerfect UK is trying to keep the UK prices of its packages in line with the US - you'll probably get the software a bit quicker if you order direct. Contact WordPerfect Corporation, 1555 North Technology Way, Orem, UT 84057, United States. Tel: 801 221 225 5000.



• WordPerfect: System 7 upgrade arrives

CALLING ALL COMPUTERS

Imagine having the facility of power as your personal computer simply by calling it on the telephone.

Hong Kong based Yucap Ltd. has launched the RSW-850, a remote power switch for PCs which is activated by a simple telephone call.

The RSW-850 is a small black box which connects to the modem attached to the PC. It relies upon the modem to interpret the signals from the telephone, not dissimilar from the PC itself. Consequently, the only device that needs connection approval is the modem. The device senses when the modem has received eight ringing tones from the incoming telephone line and then automatically powers up the PC. The idea behind the system is that, once the PC boots up, it will run a batch file that would carry out whatever functions the user requires. It costs about HK\$1,200 (£85).

MATSUSHITA IS HARD AND FAST

Matsushita has unveiled a 210Mb 3.5 inch hard drive which the Japanese giant claims is the world's largest capacity drive in its form.

The RD210AA is being marketed as

a 30d-in replacement for the NEC 176.5Mb drive which was the previous record holder for high capacity 3.5 inch drives. Matsushita says that the high capacity of the drive is made possible by the use of negative sliders that reduce the pressure between the drive head and the disk surface. Expect shipment of the drives later this year.

DELL SAVAGES PRICES



• Dell PC: UK price cuts

Dell has shaved US pricing on nine of its desktop and laptop computers. The price cuts range from \$100 to \$850. The Dell Systems 210, 335P and 333P have been cut by \$200, while the 325D and 333D have been reduced by \$100 in all configurations.

The 316LT and 320LT laptop systems have been reduced by \$400 to \$800 depending on the configuration, and a reduction of \$950 has been made on all configurations of the popular Dell System 433P.

According to Dell US, the price cuts take effect immediately and are the first stage in what the company calls a series of aggressive actions "to maintain our competitive advantage in the industry."

Over to Dell UK for a similar price cut on this side of the Atlantic perhaps? ■

DIGITAL IS BACK!

Digital Equipment Corporation has introduced a new digital computer ranging from notebooks to mainframes. The new machines use the VMEbus architecture that is the backbone of the VMEbus-based computer using VME and VMEbus system software. The new machines are available in a range of configurations.

The DEC 480T is a new digital computer that is available in a range of configurations. It is a portable system that can be used in a range of environments. It is a new digital computer that is available in a range of configurations.

Digital Equipment Corporation has introduced a new digital computer ranging from notebooks to mainframes. The new machines use the VMEbus architecture that is the backbone of the VMEbus-based computer using VME and VMEbus system software. The new machines are available in a range of configurations.

The EVENT HORIZON

Who's doing what, with what, with whom, how, why and where...

THE PLACES TO BE...

Virtual Reality '91 5-6 June
At the Conference Forum, London. Info: 071 931 9885

EDMA 11-12 June
The conference, organised by the European Electronic Mail Association, will be the most ambitious of its kind, both in terms of theme and conference concept. Various important industry figures will be speaking, including Leon Hendriks, EDMA chairman and Bob Stearns from the firm of England.

EDMA was formed in March 1987 with a view to coordinate and assist the development of message handling within Europe. It is a not-profit making organisation open to individuals as well as companies.

A number of critical new projects will be launched at the conference, including a study into the emergence of European messaging and a report on the European ACMD Interconnector. Mattel will be

held at the Sheraton Copenhagen Hotel, Denmark. Further information can be got on 0386 793 028.

DESIGN '91 2-4 July
Image processing is of particular importance to document managers and those working with information. DES/INC aims to address the problems people face when attempting to manage the unstructured information contained in documents. The solution of Document Image Processing means that documents can be captured as they enter an organisation or department, placed in electronic form and filed on computer. This means that instead of two sources - one for the filing data and one for the actual documents - users can have access to both on a single screen.

The conference will be divided into two main areas: one aimed at end users, detailing such issues as defining requirements, choosing the correct media, law and the selection of Document Image Processing systems; the second is aimed at those involved in the technology of DIP and will include discussions of system and management level software, user interface development, developments in input and output peripherals, and storage management. It will

be held at the Wembley Conference and Exhibition Centre, London. Further info on 071 931 9885.

PC Visual Systems 10-11 July
In Moscow. Info from Teesside Coe on 010 1 508 820 8122.

The International 10-1st Computer Show 17-19 July
At the Mopel Hotel, Hammersmith, London. Info on 0728 68523.

Leeds Computer Exhibition '91 1-3 Sept
At the New Exhibition Centre at Leeds University. Info: 0532 677 667.

1991 Networking '91 29-31 Oct
At the Birmingham NEC. Info: 061 686 9933.

Onstage Oct 1991 5-7 Nov
At the Alexandra Place in London. Info: 091 988 9933.

Networking Oct '91 5-7 Nov
As above.

Onstage winter '91 13-14 Nov
At the Barbican Centre in London. Info: 091 988 4496.

Golden Moments

A look back into the history of computing with Express. It's happened we reported it first.

ONE YEAR AGO

Infocom was closed down with a loss of £10 million. Infocom was an American software house specialising in adventures. Its most famous was Zork, which was based on the original mainstream adventure game.

Nintendo, that company renowned for philanthropy, last year gave £1 million to the Massachusetts Institute of Technology. The aim was to fund research into the educational possibilities of video games.

Mit had no obligation to develop games for Nintendo, the Japanese giant was hoping for some ideas that might be of use, but not necessarily in an instructional-orientated game.

Computers were cast in the role of aspirers in life-critical tasks such as monitoring air traffic control and nuclear power plants. This was the finding of an Australian report, which described computers as being complex and unreliable.

The study cited 36 examples in which computer malfunction had killed people or caused major damage.

Ken White, manager of the nuclear plant at Hayashin, believed that hardware failures could be coped with using backup systems. He made no comment about software failure, and as every programmer knows, there is no such thing as an error-free program.

TWO YEARS AGO

Express reported the launch of the first rewritable optical disk commercially available in the UK. The Inspiro, from Alphatech, was released for PC compatibles and the Apple Mac.

Although it can store 650 megabytes on its 5.25" diameter disk, when released at £5000, sales were not expected to be high. Now, as prices of such technology fall and the size of applications increases, rewritable optical disks seem more of a viable storage medium than ever.

The Insider ...

A brief but regular look at the news and views of our industry which our desperate readers demand and thus expect by the morning.

Welcome to a new column in which you get to read about all of those useful bits of information and gossip from the computer industry. The insider wants to know what's going on out there because those industry figures you are forever reading about want to keep it quiet. Send any insider info to: The Event Horizon, New Computer Express, 30 Monmouth St, Bath BA1 1BN.

Anonymity is assured, as is a free for anything used.

What's in the box?

There are a number of factors which keep the games software industry alive and kicking: creativity, marketing, desire, passion, and of course, money. Large amounts of the staff. This latter factor is often split between programmers and publishers. Well gossip has come. The insider's way which suggest that one British programmer is not pleased with a

midlands software house. Hopefully the whole thing will be settled amicably before court proceedings take place.

What's in the box?

The insider is a person of flexible opinions at the best of times, but the idea of one person having cracked, which in real terms means stolen, over 400 games from a little house in Gloucestershire Worthing is more than can be handled. Beware CW, the forces of righteousness are all ready on your worthless toll. Does any one have the name and address of a crackler looking to be cracked.

What's in the box?

Wasn't it nice of ex-Asistee employee Barry Young to back up Alan Sagar on the boarded one's decision to sack Asistee staffers? When asked what he

thought of being blamed from Westbrook, Sagar merely expressed his continuing admiration for Mr Sagar. Nice and flat. The insider finally thinks that such loyalty to a company which has just kicked you into touch was suitably remunerated...or repaid ... or ...

What's in the box?

This week's clue: A marketing manager with Lygo in the computer world was heard to say the following at a report, that means the week that this issue of Express went to press, press it: "It takes five minutes to lose a reputation and five years to rebuild it".

What's in the box?

Commodore UK's managing director, Steve Forsyth has been known to imitate the odd humber of Jack Daniels and coke/cola. That's your mash bourbon?

CIRCUIT CITY

Making an Amiga mouse sit up and beg doesn't sound too easy. Andrew Roe showed us three ways to make it jump through hoops.



It's easy enough to pick up the phone and spend an arm and a leg on switches and peripherals to make living with a mouse easier. Several companies are only a credit card away from a solution to your problems.

If you'd rather do a little bit of the work yourself and you're handy with a soldering iron, there are several switches you can make using a minimum of parts available from any electronics supplier. Some of these jobs can be done in software but often software routines tangle with applications and a physical hardware solution is generally better.

SIMPLE SOLUTION

The first thing to do is change the switching of a mouse to a mirror image, so that left becomes right and vice versa. Some left-handed people find a mirrored mouse easier to use. Changing the operation of the switches can be achieved in one of three ways. The first (and more permanent method as to open up the mouse (and thus kiss goodbye to any remaining warranty) and rewire the wires controlling the buttons over.

According to the A500 manual, the necessary wires are 9 and 6 in the 9 pin D connector on the mouse. It's

a fiddly job and the simplest way to do it is to cut and delicately re solder the wires and insulate them with a piece of insulating tape. The inside of the 9 pin D connector is small and you'll have to work with a range of tools to be sure of a tidy job. If you're on the clumsy-handed side you might prefer to do the job inside the mouse. The mouse is held together with a couple of crosshead screws and, on opening, reveals an in-line connector whose wiring bears no relation to the D-socket shown in the manual. In order to identify which are the necessary wires to swap, check the colors against the D-socket.

Inside the mouse there's more room to work, although that's no excuse for sloppy soldering and greasing. Take as much care as you can and make a discreet joint.

HOT WIRED

The second method is to open up the mouse and take the appropriate wires but instead of simply swapping the two buttons over, include a double pole, double throw (DPDT) switch in the circuit. This switch allows either the original circuit where left and right buttons are as they should be or a reversed situation where left is right and vice versa. The smallest DPDT switch from an electronics supplier is tiny enough to be mounted on the mouse and should be positioned at the top as shown in the illustration.

When mounting it you should be careful to position it in such a way as to avoid obstructing the bottom half of the mouse. When the two halves are re-assembled it will be a snug fit and as such must be positioned accurately. Massacre everything very carefully before going ahead and making the necessary hole to mount the

switch.

This will give you a mouse with an on-board switch that will instantaneously swap the left and right button control over.

PORTABLE BUTTON SWITCHER

If you want the switchable buttons but don't plan on doing any permanent harm or drilling holes in your Amiga robot, the final alternative is an in-line switch that connects to the mouse/joystick port of your Amiga. This plugs into the port and, using a DPDT switch, offers you the left hand alternative for the left and right mouse buttons. After the switch comes another D-socket. The plug/wire/switch/socket combination (as shown in illustration 2) offers a simply removable way of completing the task.

WHERE'S THE POINT?

Have you ever used one of those applications where the mouse pointer must remain in the same place for a long time with the ability to click still?

The problem with software like this is that if you knock the mouse it moves and you have to reset it. An ideal solution would be to find a way to disable the mouse pointer movement without affecting the buttons. A single pole single throw switch between a D-socket and socket on line 7 (illustration 1) will do the trick.

MOUSE JOYSTICK SWITCHER

A DPDT switch, two D-socket and a D-socket wired in the manner shown in illustration 3 (and built into a tidy little box) will double up the mouse port on your Amiga to allow you to have a mouse and joystick plugged in at the same time. Either is accessible at the flick of a switch.

SUPPLIERS OF BITS

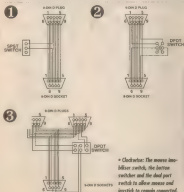
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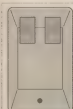
The Amiga is wired internally for software that supports a three button mouse. At least one maker has had problems with the internal connections supplied in the manual, according to the A500 user's manual (p A7) the pins for the mouse buttons are:

Pin 5 Button 1
Pin 6 Button 2
Pin 9 Button 3

This has led several people to assume that pins five and six are left and right buttons respectively. This is not the case. (Pins six and nine are left and right. Pin 5 is the not often used centre mouse button. This is not implemented on Amiga mice although it is possible to attach a three button mouse.



* Clockwise: the mouse in-line switch, the button switcher and the dual port switch to allow mouse and joystick to remain connected.



* Drill a small hole here to insert an in-line button switcher.

STE's POA Atari TT's POA Mega STE's POA

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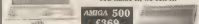
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TECH TIPS

Driven mad by a malfunctioning modem? Suffering from a desktop ailment? Discovered a mine the size for a blind mouse? Not sure who married your aunt? Write to Keith Parnfret, Tech Tips, New Computer Express, 30 Monmouth Street, Bath, BA1 2BW.

Floppy Yummy

Is it possible to connect up an Amiga ST external floppy disc drive to a Yamaha CX5M MSE (MK1)? I know this sounds like putting a diesel in a Ferrari but it really would help me out a bit (access time from tape cannot be described as blinding) and CX5M drives are now about as common as rocking horse droppings!

Also, have you any idea as to whether MicroIllusions intend to write a standard notation sequencer into future releases of Music X? I know that modern computer music software opens up music to everyone but how about the old crates who actually stopped our gate out learning the fiendish dance and cannot get on with these new tangled bertrig jobs? Excellent mag! It is the only window on the vast computing world that is worth reading. James Methuen, London

Unfortunately, the Amiga ST floppy drives won't work on your early MSX computer without a serious dose of techno-stuff that will cost more than the job's worth and/or be usable a professional wirehead. Someone out there is bound to have done it and no doubt will receive several letters telling us how to do it by the next post but unless we're proved wrong, the verdict

remains "keep looking, the hen's teeth."

No good news on the MIDI music front either I'm afraid. For now you'll have to put up with the graph-like bar and grid format as the software publishers seem to think that there are more non-musos out there than musos. I too learned music via the more traditional dots but have to admit that the grid format is more logical and if you persevere, I'm sure that you'll find it more appropriate for computer music.

Hard stuff

Someone offered me four 10MB hard drives for £10 each. He said that they came from an Agricot F series III and would bolt straight on to an Amiga by connecting them to the floppy drive connector at the back. He said that if I chained them all together in a line, they would show up like floppy drives and as they were only 10MB each they wouldn't need a special controller card. My advice is to buy them. Jason DeDezopolis, Sidmouth

Your supplier is selling you fibs. The drives from an Apple II series computer (which isn't a PC in the true sense of the word) won't work with your Amiga and certainly can't be "chained" out of the external drive port. My advice is to avoid doing business with this individual who is

obviously more interested in his profit than your well-being. The computer world seems to be full of people offering obsolete ideas to unwitting Amiga and ST owners.

If you want to avoid being ripped off, only buy peripherals from a reputable dealer or, if you must buy privately, be sure to see the hardware working before you purchase it.

TIP! 1 blind mouse

The mouse on our Amiga began to stick and slip a lot after about six months of constant use. Because of all the stories we'd heard about the unreliability of Commodore's own product, instead of thumping the table at our supplier, we bought a Naksha mouse (which we'd heard good things about).

The Naksha mouse worked brilliantly until one day it was hanging over the edge of the desk and our cleaning lady trapped it in a drive sweeper it's ball. An important job was in hand and there was no chance of a replacement for at least four days. Out came the old Commodore mouse and as it was now out of warranty it was attacked with a screwdriver to see if it could be repaired by the family's amateur mouse-fixing team. The rolling ball was removed and the rollers

examined. Where they came in contact with the ball, a glazy, sticky coating was apparent. A combination of tweezers, Stanley knife and coffee had removed this and other debris had been got.

The mouse was reassembled and worked as perfectly as it had from day one.

The moral of this tale is that you should check things before you replace them. All of this was months ago and the Commodore mouse is still going strong.

Mark Groucher, Bournemouth

What you describe is the most common complaint and remedy for all mice. The mouse rolls across the table or mouse mat picking up any loose debris and most of that seems to get compacted and deposited on the rollers. It shouldn't be necessary to take the mouse apart to remedy it though. Removal of the ball from the lapboard underneath should be enough to allow you access to the rollers. If you must use something sharp like a craft knife or scalpel, be very careful. A pair of tweezers should suffice for all but the most stubborn gunge.

TIP! Amiga BBS

I'm running a BBS at the moment on a TrossAmiga shareware and although it's very good it does have its limitations. What I would

TIP! Manual modem

To get into comes with an Amiga I needed a modem, the shop prices were too high and an advert in the paper looked to be a solution. The local rag brought several offers of modems but the only one that I had ever heard of was a Nightingale. I bought the modem for £25.

There was no manual available and now I have found that I can't get it to work. I have tried several communication programs to no avail. These programs work with a friend's Demos IV modem.

Because the Nightingale has no manual, I have used the Demos IV manual but some of the Hayes AT codes will work. Someone at work with a modem from the Nightingale's manufacturer, Pace (The Linnet) has tried the software too and

it works. So I have to open up the modem and alter something to get it to work or am I missing something so obvious that it is staring at me?

Trevor Waller, Manchester

It is a fairly common mistake to not realise that all modems aren't Hayes compatible so don't chastise yourself too severely. The problem that you're having isn't surprising as the Pace Nightingale is a manual and not an automatic modem.

This means that instead of typing AT commands at the keyboard, you set your software to "on-line" mode, manually dial the number and, upon hearing the modem tones when the line is answered, switch your modem to on-line.

With the Nightingale you've a data transmission speed choice of 300-300 baud (very slow) or 1200bps (slightly less slow). You can also choose whether you



• The Pace Linnet will talk for itself but if you're a Nightingale, you'll need to push a few buttons.

originate or answer the call. If this is sounding a shade complicated, you should perhaps contact Pace on 0274 488211 and ask them the cost of a replacement manual for your modem.

like is your opinion on the best software to run a BBS on on my trusty Miggy. The packages are expensive so I don't want to make a mistake and get the wrong one. I know the best software for a BBS is on a PC but I don't want to go as far as getting a PC when my miggy would be quite capable of running a board with the help of a good package. Also do you think any companies would send me a beta copy of their software so I could try it before buying it? Do all the packages come with a backuploader for easy file entry? Please find time to answer this letter as I will be waiting for your advice. Keep up the good work!!

R.C. Billington, Teatford

As you're already running on Amiga 680, why not put the board down for an hour and join the systems of a few other 680s using Amigas and have a chat on the advantages and disadvantages of their systems. After all, the Sysop of a BBS is the logical person to answer your questions and you'll find a comprehensive list of BBSs in *Express*. On Line.

Serial killings

I am trying to operate a Genius mouse via a 940-280X multi-IO card (supplied by CompuLink), into an Olivetti PCI (since this machine does not have a 'proper' serial port).

The 940-280X has a number of links to enable configuration of the serial ports and this may be the source of my problems. A simple utility program that identifies various peripherals attached to my machine acknowledges the second port but the mouse test program fails to work.

I have already modified the PCI to produce the required +5V for RS-232 operation and configured the software for the correct port but am still at a loss as to the cause of my 'dead' mouse. Any advice would be gratefully received.

D.C.G.R., Tyne & Wear

There's no simple answer to your question without examining the mouse, board and software although you should try installing and running the mouse on another machine to check that it works.

If it doesn't, the mouse is your problem. If it does, try installing the card on another machine and installing a couple of different mice. If you have documentation for the links on the IO board, check that these are set up correctly. Otherwise, you could contact the board's supplier for these details. A less elegant alternative is to try each possible configuration of the links and

work on deduction. If you draw each possible configuration of the links and tick each one off as you've tried them, you should get a result.

All Greek

On the back of my Archimedes A3000 there's a socket that says Headphones 32 followed by a drawing of a pair of headphones. I'm puzzled. Surely it must mean 32 watt headphones or 32 pairs of headphones? Maybe it refers to a special sort of 32-bit headphones? That seems unlikely but maybe the horrible old analogue headphones from a Walkman aren't the right sort (although they do work alright). Perhaps you can tell me where to get these wonderful 32-bit digital headphones to take best advantage of my Arch's capabilities?

Michael Harrison, Southend

I thought that you were teasing me until I turned the label A3000 and there on the back is a label as you describe. What it says is:

HEADPHONES 32bit

The bit sign isn't a drawing of a pair of headphones it is the Greek letter Omega which is technicalise an abbreviation for Ohms.

The 32bit is a measure of the impedance in Ohms. Headphones with a quoted impedance of less than 3211 shouldn't be used as they could damage the delicate circuitry. Headphones at above 3211 won't do any harm although the amplitude and quality of the sound could be affected.

As for 32 bit digital headphones, we'll wait until we're issued with a 32 bit digital head...

PCW/ST prints

I have an Atari 520STFM and my parents own an Amstrad 6256. I would like to be able to print out program listings etc. on the ST but cannot afford a printer. Is it possible to connect the 6256 printer to the ST, if so, do I need any extra leads?

John Patterson, Corsewall

The printer provided with the Amstrad 6256 is a 'dumb' print engine and as such will only work on Amstrad PCW series computers.

Normally a printer contains the print engine and an interface for connection to compatible computers. With the Amstrad CPC's this was different. The interface is part of the computer and the signals sent to the printer are already processed for the printer engine. A year or so ago, someone claimed to have built an interface to allow other computers to

share a PCW printer but considering the quality of the printer, which is a fairly basic dot matrix 9 pin beast, it's probably a better idea to save up the fifty or so pounds necessary to buy a parallel dot matrix printer from a bulk distributor.

"Fifty quid, is that all?" I hear you scream. I tell you to be. As recently as a month ago, Crown Computers on 0704 805615 were offering printers at under fifty pence.

Topsy Turvy

Some weeks ago I bought a 3.5 inch external 1 megabyte disk drive for my Atari STFM. I had already changed the internal half megabyte drive for an internal one megabyte drive.

The new external has its own power supply and, of course, plugs into the Atari.

However on power up,

although drive B (internal) would start up and run, it always ended with the message "Drive B not responding".

I took it back to the local shop and they checked it and declared no fault.

I finally became so fed up with it that in spite of the warranty I opened it up.

Inside there was a loose on/off switch and the edge connector wasn't connected correctly. I put these right and found that the drive worked OK without the case.

Finally, inspired I decided that it would work fine upside down complete with case. So I put the feet on the top, turned it over and Bob's your uncle. How do you figure that one?

Eric Hamby, Batsford

Simple. Robert married my Auntie Audrey so Bob is in fact my uncle. As to the upside down disk drive, I don't think of an answer unless you're playing the Neighbours' computer game...

PC publisher

What is the best DTP machine I can get which doesn't include workstations, mainframes or Macintoshes and what is the closest to an industry standard program to run on it. Also, what will it cost me?

Mal Gurnard, Plymouth

A powerful PC (286, 386 or 486) with a VGA display a huge hard drive, loads of memory and a software package like Ventura or Pagemaker would probably be ideal. To get good page proofs you'd need some sort of laser printer (preferably post script) that lets ink should gobble up the lion's share of £4000. ■

Publish and be damned

I am in the process of deciding what hardware to buy for doing mostly desktop publishing. I have read numerous reviews over the last 6 months and finally decided with Pagemaker.

I have now just finished reading two more reviews about the NeXT work station and would be grateful if you could tell me whether it would be worth my consideration. I know very little about UNIX or if it has any limitations.

I intend to print small sales catalogues which will be mostly graphical.

Mike O'Neill, Glouc



Wide labels make a comeback

DTP is a matter of choice. You've chosen the right machine with the Macintosh and if you've seen it running Pagemaker, and that suits you, go for it... At Express, we use Mac for all of the DTP but chose QuarkXpress as the software for its features and ease of use.

If you know someone that already uses DTP software and is prepared to put up with "How do you do that?" questions in the quiet hours, choose the software that they are familiar with. It will give you more help in the long run.

If you're set on a Mac as the machine to use, your DTP choice is Pagemaker, Quark, Ventura and SER. There are others but we don't know enough about them to offer you advice.

The NeXT machine that you are considering is a high level work station with many excellent features (and it comes from Steve Jobs, father of the Macintosh). Unfortunately it hasn't caught on in a big way yet and we're still waiting for:

1. A review machine
 2. Some nice DTP software to put it through its paces
 3. User feedback
- All of which is a pity when you consider that the speed and processing power of the NeXT coupled with its ability to do Post Script emulation on Sun are ideal for DTP. ...

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TRAINING FOR YOUR FUTURE

FIVE STEPS TO SIMPLICITY



Want to know how to make life easier for yourself? Mary Branscombe shows you how to understand the programs you wrote last year.

When you start a program, your initial objective is to get it to work. Once the code does what you want it to, you can spend some time making it more efficient or extending it to deal with more situations.

If the program is more than a few lines long, if you will ever want to use it again, or if anyone else will need to use and adapt the code, you should also think about writing the program to be easily understandable.

As well as using comments and thinking about variable names, you should look carefully at the structure of your code and the constructions that you are using to try to make the program easier to understand.

Writing your code so that it splits easily into sections that you can separate with blank lines involves breaking your program down into sections or modules. Each module should contain one idea or one step of the program.

For example, a small program, to add a lot of numbers or print messages to the screen, has one or two main ideas to solve a single problem. A larger program does not solve a single problem; it will be made up of the solutions to lots of small problems. The most difficult part is to fit all the small sections together.

- Each section of the program is written as an independent module then it is much easier to see what is going on.

- To make a section of code into a module, write it as a sub-routine, a function or a procedure, depending on the language.

- A module should be independent of the rest of the program so that you can re-use it.

Writing a program as modules of code separated

by blank lines lets you see the structure of the program very easily. Another good way to show the structure of a piece of code is to use indenting. When you use BEGIN and END statements in Pascal, they are there to help the compiler, but they also show anyone reading the program which commands go together. You should indent the commands between BEGIN and END:

```
IF x < y THEN
BEGIN
  x := x + y
  WRITELN ('x is greater than y')
END
```

You can indent an IF statement to show how it works:

```
IF x > 0
THEN
  PRINT 'positive value'
ELSE
  PRINT 'not a positive value'
```

This should be clearer than:

```
IF x > 0 THEN PRINT 'positive value' ELSE
PRINT 'not a positive value'
```

This is much more important when you use an IF statement as part of another IF statement. If you write:

```
IF conditional
THEN IF conditional
THEN command1
ELSE command2
```

you must know how the language you are using deals with IF statements to know what will actually happen.

In Pascal, the ELSE statement has to go with the inner IF statement. It is much easier to understand what is going on if you indent the code:

IF conditional

THEN IF conditional

THEN command1

ELSE command2

The indentation shows you what is going on at each level of the program - command1 and command2 are the two things that can happen at the level of the second IF statement.

Because nested IF statements of this sort can be confusing, you might want to organise your program so that you don't need to use them. Another problem to be aware of is that if you have to choose between a lot of different conditions, it may look as if you have nested IF statements when there is only a list of alternatives. It is much better to use a CASE statement, like:

```
CASE n OF 0: PRINT 'negative number'
CASE n OF n = 0: PRINT 'zero'
CASE n OF n > 0: PRINT 'positive number'.
```

It is quite clear what is happening here and that means that this is one less section of the program to work out.

You can often find that you have a choice between something confusing and something that is more long-winded but clearer. In C, there is a very terse FOR construction:

```
FOR (i = 0; i <= 100; i = i + 1)
  (PRINT 'next number is',
  PRINT i
  )
```

This is rather obscure but it simply prints the numbers from one to 100. It makes life easier for everyone if you use:

```
for i = 0;
while i <= 100;
  (PRINT 'next number is',
  PRINT i
  )
```

WATCH THE SPACE!

The only spaces that you need to put in to your programs are the ones between words. You don't even need to use new lines if you don't want to; you can use an endless number of lines in many languages.

This can be useful if you want to group related statements together. There is nothing wrong with putting a WRITE and a READ statement on the same line, because they are part of the same concept: getting data from the user.

It is rather difficult if you put unrelated statements on the same line, because this can make the

program confusing. What you want is for each step of the program to be individual lines, not to be separate on the page or on the screen, so that you can see what is going on in the program as you look at it.

You can separate lines and sections of the program with as much blank space as you like. You can put a blank line between separate parts of the program and leave several lines before you include any procedure definitions that you are using. The compiler or interpreter that reads your program will ignore blank spaces unless you

put them in the middle of a word or an operator - so you can't write `for i = 1`.

You should put blank lines around `if` and `while` to make your intentions clearer to read. You should find it easier to calculate:

```
if i = 0 then i := i + 1
```

```
instead of
```

```
if i = 0 then i := i + 1
```

Brackets will help a lot if you are reducing formulas in your programs. It is easy to get wrong what multiplication will be done before anything else.

THE VERDICT

In general, you are trying to make life easier for yourself and other programmers. You will go a long way towards accomplishing this if you keep these five points in mind:

- 1) Lay the program out on the page so that you can see what goes where.
- 2) Don't be afraid to put in enough space.
- 3) If in doubt, make it simple.
- 4) If you find a construction difficult to use, the code will be difficult to understand.
- 5) However simple you make the program, put the comments in to tell everyone what is happening.

For further things, call this simple 5. Write to us about programming at mary@compuserve.com

Amiga demos are thick on the ground these days, but none of them could truly be described as indispensable, until now. The latest Phenomena demo was sent this way by the boys at Capcom Computer.

It features some truly top-notch programming, including a couple of tracks most of us thought were beyond the Amiga. The whole demo is accompanied by just about the best original soundtrack you'll ever hear on an Amiga.

The music seems to be, for the most part, performed by the Amiga itself, which is unusual because Amiga demos generally rely on sampled music. The sound chip really outdoes itself here, but most of the sonic credits are due to the skill of the musical programmer.

The demo is really a massive exercise in self-congratulation. Demos, by their very nature, are places where programmers get the chance to show off. Most of this baby is accompanied by a



Phenomena: looks and sounds a treat.

THE PD COLUMN

More Public Domain doings from Mr. Cheap Skate himself, Frank O'Connor, with the ultimate Amiga demo, some simple ST circuits and a landscape creator...

scrolling message explaining just why some of the graphics are so difficult to produce with any measure of polish.

The piece starts off with a "strange cube". At first it looks very banal, a square containing a scrolling starfield. However, things soon change. As the cube rotates through all three axes, the other sides reveal spinning vectors, filled and wireframe. You end up with four distinctly different graphical techniques all contained in one object, and all running beautifully simultaneously.

Next comes a truly glorious vector demo. Fluid objects travelling through a very splendid and convincing light source world. The vectors themselves are top-standard filled efforts, they move smoothly enough, but the most impressive thing is the amount of colour used. The ground fades realistically towards the horizon and the object's shadows are affected by "cannons" movement.

Just when you recover from that, you are shown three versions of a

bouncing sphere. The first is composed of dots, the second is made up of wire frame polygons, but the third is built from, and I quote, "41 light sourced polygons" all solid and filled. It looks quite breathtaking in motion and moves at incredible speed.

'A snake of green spheres wind their way through a magnificent pool of Mandelbrot shaped liquid'

The piece also contains of the video however, is the ray traced fractal. It really is quite mind blowing. A snake of green spheres wind their way through a pool of Mandelbrot shaped liquid. It has to be seen to be appreciated.

The programming throughout the demo is very impressive and it is from this sector that future growth in programming will emerge, if software companies

had any sense, they would be headhunting talent from demo creators in Sweden and Italy. These guys really deserve some recognition.

ST DOES THE CIRCUIT

What I know about circuits you could write on the back of a stamp with a thick kiltipped pen, but even I was impressed with the simplicity of the circuit designer from Caledonia PDL.

The program will run only on mono STs, but includes a very useful mono emulator for all you poor and neglected colour users.

You have a very wide range of options for your disposal including an incredible array of editing features. The main screen is the symbol selection stage. Here you choose the relevant circuit component, be it a transistor, a resistor, capacitor or diode.

Once chosen you return to the usually blank circuit board. You can define the shape of the circuit board before you

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HAND SCANNED!

Hand scanners are an ideal way of placing photograph quality images into your graphics packages. David Golder checks out the quality of the DAATAscan Professional.

If you want to use a photograph or drawing in your graphics package the easiest way to get it there is with a scanner. Hand held scanners are particularly useful to the Desktop Publishing enthusiast as they provide a cheap and quick way of incorporating hard copy logos and pictures into their own work.

The DAATAscan Professional is a complete mono hand scanning package for the Amiga from Pandad Marketing (0234 855666). The package comprises the scanner itself, an interface cartridge for connecting the scanner to the Amiga, a power supply unit and specialised DAATAscan Professional software.

It is simple to set up; wiring up the plug is the only thing which takes some time. The scanner connects to the Amiga via the parallel port. This can be a bit of a pain if you want to print out a scan to see how it looks as a hard copy since you will have to disconnect the scanner and reconnect the printer.

"One of the best features of DAATAscan is that you can watch the image build up on screen in real time as you scan."

The actual scanner is not manufactured by Pandad, but a company renowned for making high quality scanners, Mastek. This is a normal state of affairs for hand scanning packages, but the DAATAscan professional scores over its rivals because Mastek's scanner is just that bit more refined than most. For example, it has an extra roller at the back to make it easier to keep the scanner moving in a straight line. It also has a little LED indicator to warn you when you are moving too fast.

It can scan in four different resolutions from 100dpi to 400dpi. Scans can either be in black and white – suitable for line drawings – or else one of three modes for varying simulations of grey scales (see accompanying panel). The higher the resolution and the scan mode the more slowly you will have to move the scanner.

The software, which has been produced by Pandad, is also a notch above the competitors. The

main working area has three windows; one contains the commands – such as scan, load image, save image, print etc – the second has all the variables you have to set before you can do a scan and the third is the image window where completed scans appear.

PREPARING TO SCAN

To scan a picture you have to set up the size of the scan and the resolution then click on the scan icon. The screen goes completely blank apart from an information line at the top and the scanner comes to life. One of the best features of the software is that you can watch the image build up on screen in real time as you scan; the image will fill the screen from the top downwards as you move the scanner. When it reaches the bottom the image will wrap; it begins again at the top of the screen.

When the scanning is complete the picture is displayed in the image window of the main working area, or, more usually, part of the picture. One of the most annoying aspects of the software is that, unless the area you have scanned is very small, you cannot view the whole picture at once. Instead the operator has to move around it using a cumbersome positioning tool. It would be happier if you could view the whole image, not to judge its quality, but so as to make moving around it for editing purposes a lot easier.

PLAYING WITH THE IMAGE

DAATAscan has some pretty impressive editing features. You can invert the picture, flip it around for a mirror image, turn it upside down and even cut and paste sections. While you cannot draw or paint anything on the image – DAATAscan is not a paint package – you can zoom in to a pixel level and switch a dot from black to white or vice versa to 'clean up' the image.

All scanned images can be saved as .IFF files, the standard file format for most graphics related Amiga packages such as Deluxe Paint and Proton Paint.

The manual is fairly informative, but lacking in the hints and tips department. For example, it advises the use of the middle brightness control on the scanner as being best for most scans, which is incorrect. For the most part obtaining the best results is a matter of trial and error. At £261 plus VAT the DAATAscan is slightly more expensive than its competitors, but this small difference certainly seems worthwhile. ■



• The DAATAscan hand scanner here scanned in by itself.



• Despite what the manual says, it is better to scan with the brightness setting at very light otherwise a lot of detail is lost.

FOR AND AGAINST

POINTS FOR

- ▲ Real time display of the image being scanned.
- ▲ Can scan extremely quickly.
- ▲ Extensive dithering allows for up to 64 grey scale simulations.

POINTS AGAINST

- ▼ Manual lacking in tips and hints.
- ▼ Software has no correction facility if you make mistakes.
- ▼ You cannot study your whole scan in one window.

DITHERING DETAILS

High quality simulations of grey scales are essential to any photographically accurate desktop publishing layout. The DAATAscan Professional provides a range of dithering patterns to choose from, together with a range of grey scale simulations. The higher the resolution and the scan mode the more slowly you will have to move the scanner.

scanners (though Pandad Marketing does not claim to be the best) for grey scale simulations. The DAATAscan Professional provides a range of dithering patterns to choose from, together with a range of grey scale simulations. The higher the resolution and the scan mode the more slowly you will have to move the scanner.

images (though Pandad Marketing does not claim to be the best) for grey scale simulations. The DAATAscan Professional provides a range of dithering patterns to choose from, together with a range of grey scale simulations. The higher the resolution and the scan mode the more slowly you will have to move the scanner.

FLIGHT SIM NEWS UPDATE SPECIAL

64A Apache attack helicopter, its sequel offers a choice of seven more technologically advanced choppers to fly.

Gunship 2000 is released for the PC compatibles at the end of July, priced at £39.99. **F-117A Stealth Fighter 2.0** on the other hand won't reach PC compatibles until October at a price of £39.99.



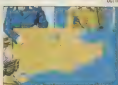
• *Could this be the dual in your flight simulator collection? Read on to find out*

Air Duel, by Glyn Williams, author of *Chelo* (remember that?) and more recently *Warhawk*, takes itself a little less seriously than these heavy-duty simulations, and yet its impressions are that it's all the more playable for it. *Air Duel* started life as the World War I-based dogfight simulation *Falken* for Activision. When the company wound down, Microprose picked up the product in question and it has since grown into a dogfighting simulation across four time zones – World Wars I and II, the present day and the future. An August release has been set for the Amiga, Atari ST and PC compatibles.

Rowan, the team responsible for the 16-bit conversions of Falcon, is currently applying the finishing touches to *Reach For The Skies: The Battle For Britain* for PS2 to commemorate the 50th anniversary of the Battle Of Britain. *Reach For The Skies* allows the battle to be fought from either the British or German point of view and as the pilot or controller of the relevant aircraft. A September release for the Amiga, Atari ST and PC compatible versions has been set but prices have yet to be determined.

Flight Of The Intruder is also Rowan's handiwork, only this one's based on a Stephen Coonts novel (which was last year turned into a film starring Danny Glover – and it won't be appearing over here as it turns out) and is for publisher Spectrum Holobyte. The Amiga and Atari ST *Flight Of The Intruder* should hit the shelves in July at prices to be announced (a PC compatible version was released in the third quarter of last year).

Two other Spectrum Holobyte wares won't have a second glance as the tank-buster simulation *Avenger A-10* and the remodelled *Falcon* (featuring topographically modelled coloured landscapes of world hot spots, which is only really



• *Reach out and you will probably find yourself getting stuffed from every which way. Reach for the Skies, 'celebrates' the 50th anniversary of the Battle of Britain.*

impressive if your PC compatible's hard enough). The lines join Tank to expand Spectrum Holobyte's Electronic Battlefield Series. Machines running EBS releases can be linked to form a common environment, allowing Tank,

Falcon and *Avenger* owners to play with or against each other. More diverse EBS compatible releases are planned, but in the meantime *Avenger A-10* will be released towards the end of this year and *Falcon 3.0* should be available this June.

Finally, a depressing... Hot on the heels of *Ninja II* (see Games Week 132), System 3 is bringing its critically acclaimed 8-bit arcade adventure *Myth* to the 16-bit machines. Not that you'd recognise it – much there again, maybe you would – a picture of it appeared with the *Ninja II* story last week. Bob Stevenson's original 8-bit pixels have been replaced by those of Paul Docherty, and the result sees a barbarian running, jumping, hacking, shooting and puzzle-solving his way through four distinctly different every-way-scrolling time zones. *Myth* is released at the end of this month on the Amiga and Atari ST, priced at £25.99 apiece. ■

TOP 10 SIXTEEN-BIT GAMES	Amiga		
	1	Armour Geddon	Psygnosis AD
	2	Levinings	Psygnosis ST AG
	3	Fantasy World Diary	CDE Masters ST AG
	4	Slave Drive World Snaker	CDE ST AG
	10	Killing Cloud	Minisoft ST AG
Atari ST	1	Gale	Homegrown/Minispace ST AG
	7	Chuck Rock	CDE Design ST AG
	3	Defender of the Crown	Minispace ST AG
	5	Little Putt	CDE Masters ST AG
	5	PDA Tour Golf	Electronic Arts ST AG
	ST AG	ST AG	

ST = Atari ST AG • Commodore Amiga PC = IBM PC or compatible ST = Atari ST AG
Data compiled by Simon • Continued on page 51

LUPO ALBERTO

Idea via The Software Business
Amiga £25.53 • Commodore 64 Cassette
£11.23, Diskette £15.31
Planned versions: None



In complete contrast to all the seriousness of the flight simulations, here's an arcade style release which is fun and funny (on the Amiga anyway – the Commodore 64 version's best forgotten). *Lupo Alberto* is a cartoon character of Italian origin. He's a blue wolf who's got the hots for Maria, a hen would you believe? The feeling's mutual, which is why the pair sit there often try to find quiet places to be alone. Ahem. And, as fate would have it, that's the objective

of *Lupo Alberto: The Video Game*, a sort of simplified Super Mario Bros run-in-jump romp. There are 10 levels standing between Lupo (or Maria – or both if you fancy some simultaneous two-player action) and success. The reward for completing a level is a picture – the missing final frame of one of the 13 three-frame cartoons found in the back of the manual. The humor is very... European, but it was bizarre enough to get me giggling. Equally entertaining is the platform action itself (particularly the fact that everything has only two-frames of animation and seems to dance to the silly music). Lupo is a little sluggish to control but his maneuverability is the air is ample compensation. A handful of peculiar special features (such as a helmet for head protection and 10-ton weights to throw) add to the entertainment. *Lupo Alberto: The Video Game* won't win any awards, but its simple, devil-may-care platform antics are keeping me content and that's as good a reason as any to give Lupo a go.



LOW-COST LASER

A good laser printer can cost a four-figure sum. Keith Pomfret tested one that promised four-figure quality for a three-figure price: £550.

In days gone by, the transition from the more common dot matrix printer to a laser printer to enhance the output of a computer was considered a huge step. The Acer LP75 is a six page per minute laser that brings pristine copy closer to the grasp of the average punter.

A good 24 pin dot matrix printer could cost you upwards of £300 while, until recently, a laser wasn't to be seen for much less than £1,500.

QUALITY RESOLUTION

The advantages of using a laser printer instead of a dot matrix are that the 300 dots per inch resolution of a laser gives an almost book-like quality. This is managed by using high resolutions, and instead of impacting a ribbon with a pin to get the output, an electrostatic process fuses toner powder to the paper in much the same way as a photocopier.

If this is the value for money available, a lot more computer users will be upgrading to lasers.

Prices have shrunk and your £550 buys you a perfectly serviceable 300 dpi laser printer complete with an auxiliary input tray. This is ideal if you regularly swap between two jobs that require different paper. In the Express office, it meant that the top tray could hold plain paper for proof-reading articles while the auxiliary tray held the higher quality and heavier headed note paper for external correspondence.

Bought separately, this second tray could cost upwards of £200, so including it in the pack price is a welcome bonus.

30 MINUTE INSTALLATION

The printer and the second input tray were supplied in separate boxes. The printer sits on top of the second tray, so the auxiliary tray instructions were needed first. These were straightforward enough and after ten minutes the machine was sitting on the second tray ready for the main installation job.

Installing a laser printer for the first time can be a daunting task with several strangely shaped internal

devices to fit and configure.

The electrostatic 'drum', toner and other delicate parts are packaged separately. The instructions for installation were clear, concise and well illustrated and, more importantly, the pictures in the manual looked like the components in the machine. The parts fitted together like a rather pleasant technical jigsaw. With drum and toner cartridge in place, a small crank was turned to allow the toner to fall into its hopper and the printer was ready to be tested. The top sheet feeder was then slotted into its place and the output tray set to output to the top of the printer.

The total time taken between placing the box on the floor next to the bench and preparing to insert the plug in the wall was a fraction less than 30 minutes, including having a second person check each stage of the job and make a checklist as each instruction was followed. The documentation was clear and concise and the instructions simple to follow.

A PC was connected to the printer using a standard Centronics-style parallel cable, leaving us ready to run our series of tests.

DIAGNOSIS

It wasn't strictly necessary to connect a computer to the printer to test the output, as there was a built-in test and diagnosis program. Bringing this into play caused the printer to output a sheet containing 11 characters set repeated several times on the page. This test was a Godsend when a faulty cable left the computer blaming the printer whilst the printer quietly ignored it.

ON TEST

With the self test complete it was time to try something a little more adventurous. A word processor was loaded with 23 chapters of a novel to be published now, and we asked the LP75 to print this wily tome. Nothing happened but as we'd already tested the laser and knew that it worked, the cable was diagnosed as the probable



***Tone was you couldn't get hold of a laser for under £1500 - now you can get your hands on one for £550 ex VAT**

cable. We replaced it and the printer decided that it had paper problems. The cryptic message on its LCD display didn't mean much, but on checking it against the error message reference in the manual we found that it had defaulted to a different paper size to the A4 we were feeding it.

It was a simple matter to change this but it would have been easier if the LCD display had said 'Wrong paper size'. With the correct size set and the word processor's output set to HP Laserjet II the pages started to pass through at around six pages per minute (ppm). This falls somewhere between the 4ppm of a personal laser and the now common 8ppm of an office machine. In test mode and when churning out book proofs, it was more than adequate.

After the word processing test it was on to something slightly more difficult. Autoplane Plus, the route planning program, was used to produce a table and a map depicting a journey.

The tables printed swiftly enough but the 512K memory in the printer wasn't enough to provide a 300dpi rendition of the map. The print density had to be reduced to 150dpi in order to achieve an output, although the resultant map was perfectly readable - if a little blocky.

A 1Mb memory upgrade sorted this problem out and allowed the map to be printed at 300dpi. The printed output of the LP75 was comparable with any other desk laser printer. ■

WHAT, WHERE AND HOW MUCH?

SPECIFICATIONS

Acer LP75
Six page per minute laser printer with HP Laserjet emulation
Auxiliary input tray included
Footprint: 16x16.5x8 inches (paper tray overhangs)
Memory: 512K expandable to 4.5Mb
Ports: 6
Coulter medium (portrait and landscape)
Coulter bold (portrait and landscape)
Line printer (portrait and landscape)
Emulation: HP Laserjet II
Processor Motorola 68000 (10MHz)

UK Home computers 0793 895024; fax 541891
Cost £549.95 plus VAT and carriage (£549.95 inclusive)
One megabyte RAM expansion £149.95 inc VAT and carriage.

VERDICT

A few little niggles were more than balanced by the well specified, well featured LP75. An £550 - which includes a second paper tray - is a quality product that is excellent value. If this is an indication of what is available, many more computer users will be upgrading to lasers. In short, it's a bargain and it's a good.

WHAT ARE THE OPTIONS?

Several other upgrades are available which include a 1Mb memory upgrade and a 300dpi resolution upgrade. These will increase the price to £699.95 plus VAT. For more information on the options available to the LP75, contact the Acer UK sales department on 0793 895024 or visit our website at www.acer.co.uk

FOR AND AGAINST

POINTS FOR:

- ▲ Cheap
- ▲ Well specified and documented
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- ▼ 512K RAM on-board not enough for graphics
- ▼ Noisy sheet feeder

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Word Processing

HAMMING IT UP

The whole world's going 24-bit crazy! At least, that's the impression you get if you take even a fleeting glance at the news pages within both *Express* or a dedicated Amiga mag like *Amiga Format*. After six years of working around the limitations of the Amiga's HAM mode, Amiga artists are finally getting the chance to break into professional graphics – the market is about to be flooded with 24-bit graphic cards which promise to deliver workstation-quality graphics power to the humble Amiga.

If you want to get in on this 24-bit lark but can't quite afford the asking price of something like the Harlequin board, then US-based Black Belt Systems may well have come up with the answer to your artistic dreams. Badged as 'the colour display device for the rest of us', its HAM-E system promises to deliver the kind of graphics power previously unheard of on a basic Amiga. Better still is the price – for once you don't have to pay through the nose to get your hands on one of these silicon beauties: a cheque for £299 is all that you'll need to write.

SETTING IT UP...

Most 24-bit Amiga graphics cards are designed primarily for the A2000 upwards, but Black Belt has taken pity on us lowly A500 users by crumming the HAM-E hardware into its own box – a rather odd, cream affair about the size of an average modem. This connects to the Amiga via the RGB connector, so there are no problems with incompatibility between different types of Amiga. Indeed, HAM-E will be just as happy running on a 512K A500 or even an A1000 as on a 20MB A286SX. Full marks to Black Belt for that one!

The box is fairly cheap-looking affair, that certainly isn't going to win any prizes for good looks. In fact, I was actually quite surprised at how boring the HAM-E hardware is; how that such a revolutionary device would have some form of pretty logo splattered across it. Indeed, unless you know otherwise there would be virtually no way (short of opening the case) of knowing what that boring little box sitting by your computer actually is!



OTHER OPTIONS

HAM-E is only the first in a large number of Amiga graphic enhancers that will be appearing on the market within the next few months. Here is a rundown of the more immediate options.

● **COLOURBURST** – developed by hardware specialists MAST, the ColourBurst system claims to be a true 24-bit graphics card for around £600. Although technical details are a little sketchy at present, you can expect a full review of the board within the pages of *Express* as soon as it arrives on these shores.

● **DCTV**: Digital Creatives' DCTV system isn't yet available in PAL format, but the US company is hard at work converting it to work with European TV systems. Far about the same price as the ColourBurst system,

Jason Holborn takes Black Belt's new HAM-E Amiga graphics card for a spin. Is it the answer to every Amiga artist's dream?

Looking around the back of the casing, Black Belt hasn't even gone to the trouble of labelling the connectors. Come on people, this really isn't acceptable. Thankfully, you'd need to be pretty thick not to be able to suss them out for yourself, but that's not the point at all. As it is, it's definitely a case of RTFM (Read The Flipper Manual)!

HAM-E lends itself best to both ray tracing and digitising

Theoretically, there's no reason why the HAM-E hardware couldn't be used on a standard TV by simply plugging your modulator directly into the board's output, taking your signal from HAM-E instead of the Amiga. I haven't actually tested this myself, though, so you should check with Checkmate (or you intended, before taking the plunge. And even if you can do this, you won't be able to get the full effect – all those lovely colours will probably end up being smeared and blurred beyond recognition.

If you've got an extra £100 to spare, Black Belt also produces an enhanced version of the HAM-E hardware which includes a neat little bit of extra circuitry called the 'Art-Atlas Machine'. Basically, this doubles both the horizontal and vertical resolution of HAM-E pictures by smoothing the image out at video signal level. Sounds too good to be true, eh?

...AND TUNING IT IN

If you're the kind of person who likes to plug in your new toy and start playing immediately, then you're in for a shock. Before HAM-E can display images of the quality shown on these pages, it must first be literally 'tuned in' to your system. According to Black Belt, this is necessary because of signal level differences between different Amigas and different revisions of the Amiga's

custom chip set. If you try using it without first tuning it in, chances are that all you'll get is a fuzzy mess on your screen. But at least once it has been tuned in, you'll never have to do it again (unless you want to use it on a different Amiga, that is).

For a task that sounds so complicated, the actual tuning process isn't as difficult as you might think. In fact, as long as you follow the included instructions carefully it's done in a matter of seconds. Armed with a shielded Philips screwdriver, all you have to do is adjust a potentiometer until the image you see on your monitor screen looks correct. Luckily, Black Belt bundles a couple of test images in the package so the whole process is an absolute doddle.

GRAPHIC RESULTS

Before you rush out and buy HAM-E, hoping to produce the kind of results we see adorning the covers of glossy magazines, it must be stressed that it is not a 'true' 24-bit graphics card. Unlike something like ACS's Harlequin, HAM-E cannot actually display an image with 24 bits per pixel of colour information. To be precise, it is only 24-bit to the extent that it actually provides a 24-bit colour palette.

What the card does provide are three new screen modes that can be dragged about and depth-arranged like any normal installation screen. Two 'Reg' modes provide 256 and 512 colours on screen at once, chosen from HAM-E's impressive 16 million colour palette. Most impressive of all is HAM-E's 'Extended HAM' mode, which will display over 250,000 colours on-screen at once. And, unlike most similar products, all three modes can be viewed on a standard Amiga monitor – so there is no need to purchase an expensive multi-line to view your images.

HAM-E's 'Reg' modes may sound rather limited when compared to the Amiga's standard 4,096-colour HAM mode, but what you must consider is that these 256 (or 512) colours can be chosen from a 16 million colour palette. You probably won't appreciate the advantages of these 'Reg' modes until you feed a ray-traced image into the board. Because there are so many more shades available, ray-traced images take on an almost photographic quality that leaves the

Amiga's standard HAM for dead.

HAM-E lends itself best to both ray tracing and digitising. If you're lucky enough to own a digitiser that can output 35-bit files (most do anyway), then you can view your digitised images in any one of three display modes. Initially these doesn't seem to be a great deal of difference between a decent HAM image and its HAM-E equivalent, but look closely and you'll be amazed at the increase in quality



DCTV combines a 24-bit display card and a digitiser within one box. Unlike most systems, DCTV isn't RGB – instead, it outputs a composite signal that must be displayed on a separate monitor.

● **HARLEQUIN** – At the opposite end of the pricing spectrum is the Amiga Centre Scotland's revolutionary Harlequin board. For just under £2000, you get a broadcast-quality, high resolution, true colour frame buffer that can produce images of the quality you'd expect from a dedicated graphics workstation.

and definition that the new screen modes provide, compared with what you're used to.

HAM is without doubt a rather quirky display mode, and a major advantage of HAM-E's 'Reg' modes is that they do not suffer from 'HAM ting' - a common problem with the standard display. Extended HAM works in roughly the same way as normal HAM mode, but there are an extra two bitplanes for HAM-E to work with. As a result, Extended HAM mode can display nearly twice as many colours (256 or 512) colours: 262,000, to be precise. As you can probably already appreciate, images displayed in this mode can look absolutely stunning.

IMAGE WORKS

HAM-E is so new that there is virtually nothing in the way of software support from third party software vendors. Just about the only package that directly supports HAM-E format images is ASDG's Art Department Professional, a powerful image processing system that is well worth buying if you intend using the HAM-E board at all seriously.

Images take on an almost photographic quality that leaves the Amiga's standard HAM for dead

To convert images from your favourite digitiser or ray-tracing package to HAM-E format, Black Belt includes a program which converts a variety of different image formats into standard 24-bit IFF files. The current release can handle images in 12- or 24-bit Turbo Silver 'Impulse' format, Sculpt RAW files, NewTek's Dynamic HiRes, SHAM, 24 IFF with CLUT chunks, Targa, GIF, 18-bit ScanLab and a few more besides. These can then be fed into HAM-E's bundled image processing program Image Professional, for final rendering to any one of the three modes available. This conversion process takes time plus a large amount of disk space and memory, so a couple of megabytes, a second drive and a steady supply of coffee soon become necessities rather than luxuries.

As you might expect, Black Belt also includes a HAM-E paint program which supports all three special screen modes. Unfortunately, Deluxe Paint II most certainly isn't. It's got a fair old selection of painting tools, but the user interface is difficult to use and the program is full of bugs. Black Belt has attempted to excuse this feeble attempt at a paint package by bundling it as a freebie, but personally I feel that the company should have left it out altogether rather than include what is undoubtedly a dire offering.

However, in Black Belt's defence I must just say that they have made the source code freely available to anyone who can be bothered to phone them up and ask for it. Who knows, perhaps some talented HAM-E user will come up with a decent replacement. If they do, I just hope that they send me a copy!

JUDGEMENT TIME

HAM-E certainly isn't the last word in Amiga graphic cards, but it's about as close as most of us will ever get to 'true' 24-bit cards such as the Harlequin. It may be cheap, but it is certainly no slouch where features are concerned. If Black Belt had sold it at double the price, it would still be one half of a bargain. As it is, if you're seriously into Amiga graphics then you'd be a fool to pass up on this baby!

My thanks go to Brian Larkman for his invaluable assistance during the preparation of this article. ■

HAM-E £299 (Basic mode) £399 (With 'Art-Alarm Machine') Checkmate Digital 071 823 0658

OTHER OPTIONS

• Although we can't reproduce the results perfectly due to the conversion process involved in printing Amiga screen grabs, hopefully these images will give some indication of HAM-E's facilities.



• This 256,000-colour picture shows the highest resolution HAM-E is capable of. It was grabbed using DigView and saved as a 21-bit file before conversion to HAM-E.



• HAM-E is ideal for displaying any ray-traced images - especially those which contain a depth of shading. These pictures were generated using Sculpt HD and saved as 24-bit IFF files before conversion to HAM-E.

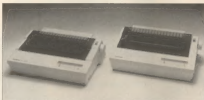


WHO WON?

We've fired up the Express Tombola to see who's in with a chance in the £4000 prize giveaway. So with no further ado let's see if you're one of the lucky winners...

The Express Compo giveaway has been down again and 85 lucky readers will be hauling away their prizes. We've turned the handle, mixed up the entries and invited the Queen to draw the winners and a little decum to the proceedings.

Unfortunately, she was too busy representing British interests in the United States. Still, the show must go on and we found a substitute. So it was that the white gloved hand of Princess Penelope of the Newforlands reached into the Tombola's drum and drew out these lucky winners:



• A brace of Brother printers are part of the Express £4000 prize giveaway. Will you get one?

PRINCE OF PRINTERS

The 'He 'laint heavy' compo for a pair of Brother printers was won by Nigel Head and George Mackenzie. Each will receive their printer directly from the manufacturer.

Five copies of Easy PC, the PCB designer software were won by Alan Stiles, GJ Reading, P Wilkinson, Dave Rhodes and Mickey Henderson and they'll all be blasting off into the 90s with their whizzy new hardware designers.

TURRICAN HALF CENTURY

The Turrican £1000 giveaway is shared by 50 lucky winners. There are 10 copies each of the game for ST, Amiga, C64, Spectrum and CPC. These are going to Adam Martin, James Price, Terry Dalton, Marc Lever, Amanda Whitehead, Jason Macintosh, Maxine Addison, Jonathan Simpson, Dave Connolly, Simon Weiss, Eric Birch, Andy Wright, Jo 'Paz' Arnold, AP Martin, Wally Wallington, Rick Weeks, Tim Read, Fiona Lonsdale, Rick

Bird, Howard Manley, Jim Rushworth, Mike Logan, M Patel, TP Poggevic, Jeff Moore, Keith Garbide, Miller Walsh, PP Clarke, M Rush, O Cameron, Glyn Talbot, Peter Meier, Yvonne Parlick, Miles Pace, J Read, Will Hartley, Stan Melling, C Handforth, RA Simson, Don Fish, L Paine, E Tarbuck, Gordon Jones, Duncan Travers, Ian Bartley, J Morrell, H Ford, M Ties, Fred Lord, and M Brierley.

The Turrican prize will be winging their way to the winners in a couple of weeks as soon as we've given the winners list to the software house.

CODE CRACKERS

Twenty more phone callers will be getting the STD code breaker direct from Sector Software they are: J Morris, Copt E Fieldson, Nick Taylor, SA Rudley, B Walton, C McPike, DPC Brown, G Stevens, Alan Kerr, Simon Peel, M Carr, Trevor Leake, DG Beck, John Vickers, SA Cooke, JL Bond, Henry Thompson, Brian Sherry, K Leyland, Carl Lister.

JUST THE FAX, MA'AM

The Datatech Fax card goes to Ron Gifford and the runners up in the Fax compo who receive Fax Builder fax software are Chris Garbett, J Barnes, J Alexander, Michael Palmer, NA Crookes, No Evans and Jack Adams.

Fax Builder winners should contact distributor LTS direct on (0888) 793817 to claim their prizes.

FIRST STEPS

The first winner in our £500 Commodore First Steps giveaway is Michael Barlow. We'll be telling Commodore to post a £500 First Steps software pack to him.

AND THERE'S MORE TO COME!

If you're not won a prize yet, keep on posting the coupons. Up for grabs in coming competitions are a Pantech scanner, a laser printer, a LAN station, 4.7 tonnes of software and a booty prize of a night out with the Express staff of your choice. ■

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GO WILD!

No ugly wart-nose is gonna make a monkey out of me! But that's just what that witch has done - one minute I'm the mighty Toki and the next I'm having breakfast delousing my armpits. I can't walk a step without tripping over my knuckles and, oh, there's an overhanging vine - time to swing out sister! But my broken heart is going ape. My beloved Miho (I can't wait to share a banana with her) has been kidnapped and somehow I've got to regain my manhood - until then I'm just swingin' in the rain!

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